

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 105

October 29, 1938

No. 18

Published every Saturday by the
Simmons-Boardman Publishing
Corporation, 1309 Noble Street,
Philadelphia, Pa., with editorial
and executive offices: 30 Church
Street, New York, N. Y., and 105
West Adams Street, Chicago, Ill.

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The Railway Age is a member of
the Associated Business Papers (A.
B. P.) and of the Audit Bureau of
Circulations (A. B. C.).

Subscriptions, including 52 regular
weekly issues, and special daily edi-
tions published from time to time
in New York, or in places other
than New York, payable in advance
and postage free. United States,
U. S. possessions and Canada: 1
year, \$6.00; 2 years, \$10.00; foreign
countries, not including daily edi-
tions: 1 year, \$8.00; 2 years, \$14.00.

Single copies, 25 cents each.

H. E. McCandless, Circulation
Manager, 30 Church St., New York,
N. Y.

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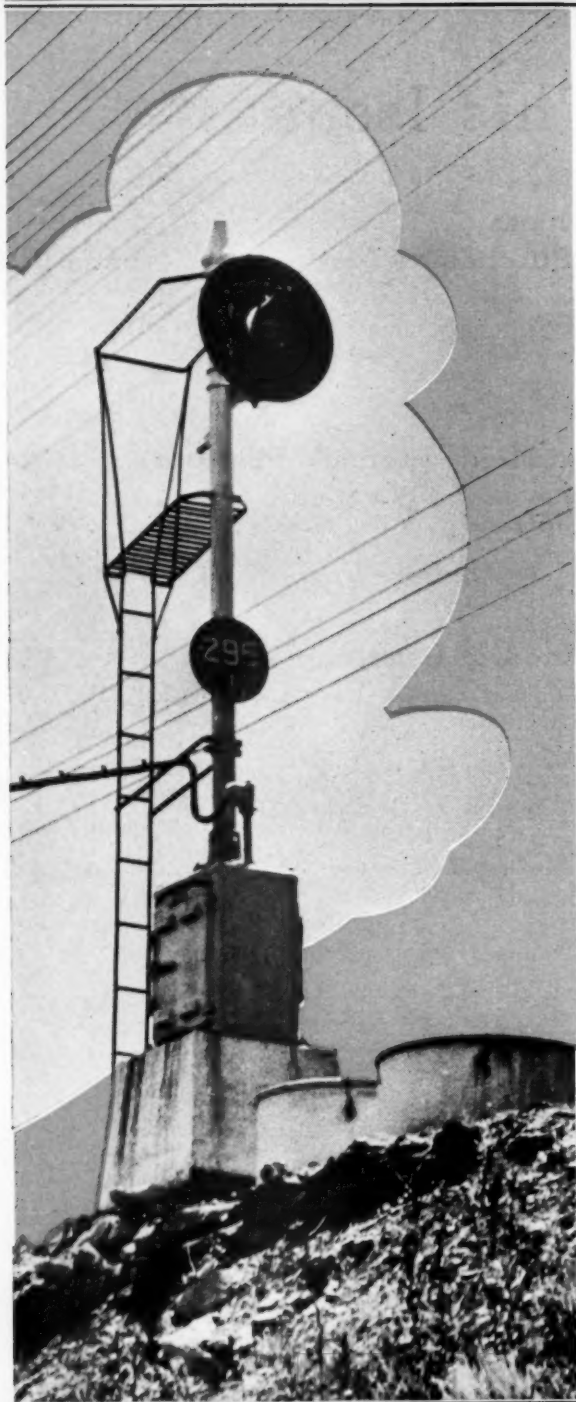
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LET'S KEEP GOING!



SCHEDULES are being speeded up!
Loads increased! All of which places
greater demands on the signal de-
partment. » » » » »

The purchases and stores department may assist in the effort to further improve train performance, reduce operating costs per gross ton mile and increase train load and speed, by purchasing and stocking only genuine "Union" made parts and units for the maintenance of "Union" Signal Systems, thus assuring the continued reliability and guaranteed functioning of the original installations. At the same time, stores inventories for the signal department may be held at a minimum and obsolete and scrap material lists reduced.

Our engineers have wide and specialized experience. We suggest you take advantage of their signaling knowledge before placing your next order. Consult our nearest office. » » »



UNION SWITCH & SIGNAL COMPANY

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RAILWAY AGE

Would "Scaling Down" or Mergers Remedy Basic R. R. Ills?

Examining and reporting at the present writing upon phases of railroading other than the wage case, is a good deal like waiting around a hospital to see how a relative survives an operation. There is no use worrying about the patient's business or his future prospects, if he isn't going to live through his present crisis. Similarly, on the railroads, until a wage reduction is made, questions as to rate adjustments, the competitive situation, reorganizations and consolidations are bound to seem unreal and unimportant.

The necessity for a wage reduction—unless the railroads are to be subsidized out of the public treasury—has been demonstrated in these pages time and again. There is no "solution" to railway difficulties yet proposed by anyone which avoids the necessity for it. The only alternative, except subsidies, to reducing wages is further bankruptcies on a large scale, and the prolongation of the railways' poverty both as employers of labor and as purchasers of the products of industry.

The Principle of "Ability to Pay"

The difficulties of the railroads stem from the decline in general business and from the violation of fundamental economic principles, and no changes within the transportation industry can contribute to its health which do not in some degree restore it to harmony with these principles. Thus, the wage reduction proposal is sound because it corrects a violation of the principle that no business can long continue which pays so much out to labor that it has inadequate funds remaining with which to buy materials. Most of the proposed "solutions" to railway difficulties, however, do not get back to these principles—and, hence, would correct symptoms rather than the disease itself. Two such superficial "solutions" are "scaling down" of capitalization and wholesale consolidation.

Of these two pseudo-solutions, the more pernicious

is unquestionably that which proclaims that all the difficulties of the railroads are to be solved merely by "scaling down" their capitalization. The leading popularizer of this patent-medicine "cure" is John T. Flynn, newspaper syndicate writer on economic subjects and a "fellow traveler" of the labor union leaders and their left-wing allies. Mr. Flynn is no tyro to be fooled by economic facts—but when he sees an unpleasant one, he simply shuns it. This occurred during the testimony in the wage case. No one with Mr. Flynn's knowledge could have been misled by the folly of the unions' claim to wage rates so high that many railroads cannot pay them and even meet their operating expenses. But he simply shut his eyes to this troublesome detail and drew attention away from it by decrying the volume of railroad funded debt, and demanding that it be "scaled down."

Why "Scaling Down" Is No Answer

The disingenuousness of the "scaling down" panacea is easily shown by the following indisputable facts:

1. The net railway operating income earned in the first eight months of 1938 totaled about 155 million dollars. This is at the rate of 233 million for the entire year, which would pay 6 per cent interest on an investment of less than 4 billion dollars. That is to say, the "scaling down" advocates are, in effect, claiming that the entire railroad industry is actually worth only about one-fifth the value placed upon it by the Interstate Commerce Commission. "Scaling down" the debt of the weaker railroads is, of course, necessary, and is now in process. But no "obsolescence of capital investment" or loss of traffic to competitors which has yet occurred is sufficient to explain or justify net railway operating income at its present disastrously low level.

2. In the first eight months of the current year there were 45 Class I railroads with a mileage of more than

41,000 which did not even earn operating expenses and taxes. "Scaling down" the capitalization of these railroads to zero would still leave them with the problem of trying to meet operating expenses and taxes, which they are not now doing. Also, included among the roads which are not earning operating expenses are many lines the cessation of the operation of which is clearly unthinkable. But such cessation will soon become not only thinkable but inescapable, if any confidence is placed in Mr. Flynn's "solution"—because his "scaling down" panacea does nothing whatever for railroads not earning their operating expenses.

Nobody denies that railroad capitalization must be reduced to the extent that railroad lines have been abandoned or have become obsolete, but to plump for it as the only step needed to "save the railroads" is, at best, a half-truth. But, as Stephen Leacock observed recently, in an argument a half-truth, like a half-brick, goes farther—and the protagonists of this "cure" are plainly more interested in winning a point than they are in getting the railroads out of their troubles.

Consolidation Has Few Friends, Except the "Experts"

We have said that of the two cure-alls, "scaling down" and wholesale consolidation, the former seems to us the more pernicious. This is so because it deceives more people. Wholesale consolidation fools nobody but the "experts"—men who know a great deal about the financial and operating aspects of the railroads, and little or nothing about the human and political factors which determine the final answer to all such questions. Here again the consolidation enthusiasts offer us a half-truth. Some consolidation here and there, there undoubtedly should and will be. But to try to do such things wholesale merely unites the opposition to consolidation and makes it effective, whereas, if the job were done piecemeal, the opposition would not be given an issue upon which to unite.

Besides, while *some* consolidations would undoubtedly improve service and effect economies, there is no proof save that of blind faith that a catch-all plan involving all the railroads in the country would not kill efficiency at as many places as it would stimulate it. Most, if not all, of the difficulties of the railroads are, at bottom, to be found in their political and labor relationships. The ideal atmosphere for solving such difficulties lies in a railroad clientele who are appreciative of railroad service and who know and sympathize with the operating conditions of "their" railroad; and in a group of railroad employees who understand that their employer must serve his patrons at reasonable rates or else lose their traffic. From a superficial observation, it seems to us that the short line railroads have, on the whole, succeeded rather better in securing this favorable attitude on the part of patrons and employees than have some of the large trunk lines. If this observation is accurate, then wholesale consolidation of the railroads would probably head them away

from a solution of their basic troubles rather than toward it.

Saving Money No Help, When Unions Take It All

After all, consolidation promises, at best, nothing more than improvement in operating efficiency. But the railroads have been improving their operating efficiency right along, and it has got them nothing. Why should a larger dose of a medicine which has been taken for years, without doing any more than keep the patient out of bed, be suddenly expected to restore him to vigorous health? As was pointed out by the Interstate Commerce Commission in the freight rate increase case last spring, increased railroad efficiency brought a rise in the traffic units performed per employee from 226 thousand in 1916 to 381 thousand in 1936. But the average wage per employee in 1936 was twice as large as in 1916—and hence the payroll cost per traffic unit in 1936 was much higher in 1936 than in 1916.

So, even if wholesale consolidation would produce large operating economies (which remains to be proved), there would still be no solution to railway difficulties along this route unless and until labor leaders and politicians ceased to force wage increases at a faster rate than the efficiency of labor is improved. Would labor leaders and politicians be more inclined to understand this problem and be willing to face it with all the railroads in the hands of "big corporations" than they are now—when at least some of the railroads are relatively small, enjoying the sympathy and understanding of their employees and their patrons? We wish we could think so, but we cannot.

Take the case of the Rutland. Here was a railroad in desperate straits, but, fortunately, it was not a "big corporation." Its patrons and its employees could and did understand its plight, and they were willing to make, and did make, the sacrifices which were necessary in order to continue it in service.

Suppose the Rutland had been merely a part of a large consolidated system, with its accounts hopelessly undistinguishable from those of the remainder of the corporation. Would its patrons and its employees have then been able to understand its situation? The chances are that they would not—and the earnings of the more prosperous part of the consolidated system would have been pulled down in the attempt to give Rutland patrons service at less than cost, and Rutland employees would probably have made no wage concessions. (At least, we have never yet heard of unions consenting to the payment of lower wages on a less profitable part of a railroad than upon the more profitable part of the same system.)

Tests for Adequacy of a "Plan"

Consolidations, wholesale or retail, or the "scaling down" of capitalization are but attacks on the unfavor-

able symptoms of the railroads' fundamental malady. Unless the influential public can be brought to an understanding of the basic character of the carriers' difficulties, there is small chance that they will be dealt with realistically or effectively. There are a few simple tests which can be applied to any plan for surmounting the railroad crisis—which tests will disclose whether the "planner" has any real understanding of the problem with which he is faced. Among these tests are the following:

1. *Does the plan provide for the ending of subsidies and other favors granted to railroad rivals, but not to the railroads?* Mere "equal regulation" is not enough. Studies by disinterested experts in Illinois and Missouri prove conclusively that trucks are heavily subsidized by inadequate assessments upon them for the privilege of using the highways. All inland water lines are heavily subsidized, being charged nothing whatever for the use of the improved channels provided by the taxpayers. Railroad consolidation and operating economies may be effected to the utmost—and still there can be no future for the railroad industry of a kind to restore its credit until public authority sets up boundaries to its highway and waterway construction program and says: "Thus far and no farther will we go in building facilities for the railways' rivals, over and above the payments which the users make for these facilities."

What operating economies and what consolidation plan could possibly assure any future for the railroad industry against the ever-present possibility that any railroad may at any time be paralleled by the most costly waterway or highway that money can provide, with no tolls exacted of the users commensurate with the cost of the improvement? Any "solution" of railroad difficulties which does not tackle this competitive subsidy situation realistically is merely a phantom, and nothing more.

2. *Does the plan make any allowance for wage rates varying with the degree of prosperity of the railroads?* The railroads have been criticized because their rates do not go down with the general price level—and there is no question that high railroad rates at a time when other prices are depressed tend to throw the economic system out of balance. But railroads cannot maintain the kind of rates which will "temper the wind to the shorn lamb" among their patrons if wages are to be forever rigid in a downward direction, and unlimitedly flexible upward. What kind of employee interest can an industry expect, when the employees "get theirs" regardless of conditions in the industry?

No Incentives in Present Wage Policy

As a matter of fact, equal wages in times of prosperity and depression actually put a premium on employee disinterest in the state of business activity—because the standard wages will usually have greater purchasing power (for the few employees remaining to

draw such wages) in times of depression than in times of prosperity. A wage policy which gives employees a negative interest in the welfare of their employer's business would, by itself, be sufficient reason for a depression in that business; and it follows that no "answer" to the railroad problem can be genuine which fails to correct this condition.

3. *Does the plan end the numerous "rackets" of which the railroad industry is now the helpless prey?* One such racket is the notorious activity of the referees who decide most of the controversial cases which are appealed to the National Railroad Adjustment Board, awarding "back pay" of hundreds of thousands of dollars to employees upon a legalistic interpretation of working rules. We have no idea what the total amounts involved in these decisions have been, because the railroads are afraid to let us publish the information for fear of "reprisals." We do know, however, that the actual amounts have been huge—and that, because of the fear of reckless awards by these referees, many railroads have made numerous "voluntary" awards to their employees, which no court in the land, in all probability, would have required them to make.

There is hardly a railroad which does not have working rules, particularly in train, engine and yard service, which were originally drawn up to end genuine abuses, but which have outlived their usefulness, and serve today only to pay people for work not done and to make it increasingly difficult for the railroads to provide flexible service which will meet the competition of their rivals.

"Reparations" is another "racket" which ought to be eliminated, or at least severely curtailed. There are many others, such as the requirement for grade crossing elimination and other unremunerative improvements—enough "rackets" altogether to give anemia to a healthy industry, but which the sick railroads can obviously no longer support and keep going.

Railroads Hog-Tied in Making Rates

4. *Does the plan provide for greater flexibility in railroad rate-making, absolving the railroads from "discrimination," where the discrimination is not of their creation?* Specifically, does the plan permit the railroads to meet competition where it exists, without compelling them to meet it where it does not exist (the principle of the Pettengill bill)? Coastwise vessels, pipe lines and barge lines compete for traffic on the basis of trainload rates—and yet the railroads cannot meet this competition unless they will make the same rates for shippers in carload quantities, for whom their competitors make no such rates. There is no justification, ethical or economic, for this discrimination against the railroads—and yet many of their competitors would probably have never even come into existence except for it.

One of the states at least, maybe more, has a singularly effective law against chain stores. It provides that no chain system may make a price in one store in the

state, without making a price similarly low in every other store. So if a chain tries to compete with every merchant who happens to be having a bargain sale on a given commodity, it soon finds that it is selling all its goods in all its stores below cost. Thus it has to forego meeting any competition at all; and, of course, it just cannot do business in that state. The situation the railroads are in by reason of the long-and-short-haul clause of the Interstate Commerce Act, and by the policy of the Interstate Commerce Commission with regard to quantity rates, is exactly similar.

Any adequate solution to the difficulties of the railroads must be able to answer affirmatively at least the four questions propounded above. Efforts to restore railroad credit as such, the proposals for "scaling down" capitalization, grandiose consolidation schemes—all such proposals deal only with symptoms. Anyone who puts them forward as genuine "answers" is either naive or disingenuous.

How Much Freight Loadings Have Increased

Between the week ended May 14 and the week ended October 15, a period of five months, the freight loadings of the railways made a gain that was 17½ per cent larger than seasonal. This gain has been exceeded in only two periods during the depression—in the last one-third of 1932 and in the four months April-July, inclusive, 1933. These figures are of importance because railway freight loadings are the best single measure of the volume and trend of the total business of the country. Freight loadings gained steadily from the middle of May to the middle of July. After having made a non-seasonal decline for four weeks, they began gaining again about the middle of August and have been increasing ever since.

The *Railway Age* bases its estimates of more than seasonal decreases or increases upon average weekly loadings in the five years 1925-1929, inclusive. Loadings steadily declined during the early months of 1938 until in the week ended May 14 they were only 53.2 per cent of what they averaged in that week in 1925-1929. If they had continued to be only 53.2 per cent

of this average, they would have been in the week ended October 15 only 617,025 cars, whereas they were actually 726,612 cars, or 62.6 per cent of the 1925-1929 average.

The first larger than seasonal gain in loadings that occurred after the bottom of the depression was passed occurred during the four months September-December, inclusive, 1932, and was 17 per cent. The next larger than seasonal gain of the depression was during the four months April-July, inclusive, 1933, and was 27 per cent—the largest gain ever recorded during an equal period. The gain made in the five months from the middle of May to the middle of October, 1938, was relatively about the same as in the four months, September-December, inclusive, 1932; but it was relatively only about one-half as great as that which occurred in the four months April-July, inclusive, following the reopening of the banks. The increase that began in the last one-third of 1932 was stopped throughout the first quarter of 1933 by the banking crisis. The increase in April-July, 1933, was followed by a decline as a result of which the level reached in July, 1933, was not again equalled for six months.

The figures for 1938 and for previous depression years afford some other interesting comparisons. In the first five months of 1938 loadings were smaller by 1.6 per cent than in 1932, but in the first nine and one-half months of the year were 6 per cent larger. In the first five months of 1938 they were 10 per cent larger than in 1933, but in the first nine and a half months were only 2.7 per cent larger. In the first five weeks of 1938 they were slightly larger than in either 1934 or 1935, but in the first nine and one-half months were about 4 per cent smaller than in these years. At the beginning of the year they were about 2 per cent smaller than in 1936, but during the entire nine and one-half months were 15.3 per cent smaller. In January they were 17 per cent smaller than in 1937; in the first five months were 25 per cent smaller; and in the first nine and a half months were 23½ per cent smaller.

In the week ended October 15 loadings were 12 per cent larger than in the same week of 1932; 8 per cent larger than in 1933; 14 per cent larger than in 1934; 1 per cent smaller than in 1935; 11½ per cent smaller than in 1936; and 10 per cent smaller than in 1937.

Recovery—Not Till Investment Revives

Current economic indices have now for some time been pointing toward rally from the depths of the recession that struck us a year ago

What we are all waiting to see, however, is the thing for which we have been hoping for several years (and have thus far met but disappointment)—a revival of capital investment by private owners of capital. That is, as it has from the first been, the indispensable key to recovery, and it is the one thing that has been lacking in our economic situation since the onset of the depression.

—From the *Wall Street Journal*.

We all know the reason of its lack—politics. That is a fact which no one denies.

Excluding all questions as to the rightness or wrongness of the "politics" and the reason or unreason of capital owners' fears, and regarding only the fact of those fears, we confront today precisely the same problem that we did half a dozen years ago. If we are to have a true recovery those fears must somehow be banished and the question today is, are they going finally to disappear. In the answer to that question is the answer to the question whether or not we are going to have recovery

Southern Pacific Modernizes Purchasing Methods

Improved scheme of preparing requisitions, bids and orders speeds procurement without losing flexibility

By M. C. Nystrom

Assistant Purchasing Agent, Southern Pacific, Pacific System, San Francisco, Cal.

DURING the past year the Southern Pacific, Pacific Lines, has made extensive and important changes in its purchasing methods by introducing a system for ordering material which multiplies the advantages claimed for the so-called requisition-order method of ordering material by permitting copies of requisitions and purchase orders and also bids to be prepared at different intervals without rewriting and without requiring all reproducing to be done at one place. The new scheme of ordering material recognizes the importance of speed in supply operations, especially on a railroad like the Southern Pacific with its great distances between sources of supply and points of consumption, and has proved a practical and economical way of reducing the time elapsing between the preparation of storekeepers' requisitions and the placing of orders on suppliers.

Automatic Reproducing

The basis of the method is a requisition prepared in the store department with "hectograph" ink which will make an impression on reproducing substances, from which the stores department can first run off all the copies of the requisition it requires and then forward the requisition, properly approved, to the purchasing department where it will serve not only as an original requisition but as a master copy or stencil from which both bids and orders can be prepared in the purchasing department. The reproducing equipment used is that commonly referred to as a spirit or fluid duplicator (of which there are a number on the market) which will produce up to 200 copies direct from a master by the use of a transfer fluid without any other transfer medium.

While the masters can be used to produce up to 200 copies, the entire quantity need not be run at one time. For example, 25 copies more or less can be run off at first. A week or two later, additional copies can be run off from the same master, and so on until the strength of the ink is exhausted. It is this re-use provision which makes the process particularly adapted to the preparation of requisitions, bids and orders by permitting the purchasing department to use the original requisition for reproducing purposes after it has been used by the store department.

Information which it is desired to omit in subsequent reproductions can be blocked out by templates which are easily inserted in a slot in the rotating drum of the duplicating machine, thus permitting the same master to be used in several ways.

The operation requires a spirit duplicator at the store which prepares requisitions on the purchasing department so that the store can make copies of the requisition for store use. Another duplicator is used in the purchasing department for preparing bids and orders. No special typewriter equipment is necessary but for the sake of appearance the typewriters used in the store for preparing requisitions use the same style of type as those used in the purchasing department for preparing bids and orders. A requisition-master is prepared by placing in a typewriter a requisition form with a sheet of hectograph carbon in the reverse position so that when the face of the requisition is typed a carbon impression is made on the reverse side for use in making the copies by the hectograph process.

Three Way Requisition

The requisition-master serves a three-fold purpose, first as a requisition-master, second as a bid-master and third as an order-master. In other words, it is not only an original requisition but also a hectograph master from which the store runs off on a spirit duplicator the copies it requires, following which the requisition master is forwarded to the purchasing department where, by the addition of bid number, closing date, etc. (also inserted by using a hectograph carbon in reverse), it becomes a bid-master from which bid sheets and abstracts are obtained. Later the same requisition, now a bid-master,



Method of Printing Requisitions, Bids and Purchase Orders

STOCKKEEPER'S REQUISITION
LOS ANGELES, CALIF. (Prepared At)
JANUARY 15, 1938 (Date of Req.)

Order No. 12345
Rep. No. 789
Bid No. 789

Place ship following
date of ASST. GENL. STPM. STORE 4/1 LOS ANGELES, CALIF.

QTY	SIZE	DESCRIPTION OF MATERIALS, SPECIFICATIONS, ETC.	UNIT PRICE	TOTAL PRICE
25	10	30 BARS WILD STEEL 3/4" X 2" X 20'		
10	0	20 BARS WILD STEEL 3/4" X 2 1/2" X 20'		
15	0	7 BARS WILD STEEL 3/4" X 3" X 20'		
0	0	16 BARS WILD STEEL 3/4" X 3 1/2" X 20'		

NOTE: MAY BE PURCHASED IN LENGTHS OVER 20' BUT NOT UNDER.

APPROVED: J. JAMES

Fig. 1.
Made
At
Store

Forms Insure Legibility

The requisition-master is printed on a glossy or highly coated paper which will retain hectograph ink on its surface and not absorb it. It is a sheet 8½ in. by 17 in. which is folded in the middle to make a square form 8½ in. by 8½ in., one-half of it forming a protective sheet for the hectograph impression on the reverse side of the other half. If it were not for this the hectograph ink would smear, be messy to handle and spoil the master for copy purposes. The original order blank is printed on a highly finished stock to insure the clearest and most presentable copies. Bids, abstracts, office copies of orders, etc., are all made on sulphite or low sulphite bond papers. Because of the duplicating problems involved, bids, abstracts and orders are all printed to register accurately with the requisition form.

Blockouts or templets are made of treated fabric with holes cut in them so that when placed in the duplicating machine they will permit only the desired information on the requisition-master to appear on the bids or orders being run. In order to use the requisition-master (subsequently termed bid-master and order-master), for pre-

is marked with additional data such as the name of the supplier, the prices, etc. (by using a hectograph carbon), and becomes an order-master from which the original purchase order and all other copies are similarly duplicated.

Under this method all information typed at the store on the original requisition, which is required in the preparation of bids and orders, is used without retyping. For example, the requisition number, destination, quantity of material desired, the description, etc., are not rewritten in the purchasing department. Only the

Below—Fig. 2. Reverse Side of Requisition Used as Master for Reproducing Copies

STOCKKEEPER'S REQUISITION
LOS ANGELES, CALIF. (Prepared At)
JANUARY 15, 1938 (Date of Req.)

Order No. 12345
Rep. No. 789
Bid No. 789

Place ship following
date of ASST. GENL. STPM. STORE 4/1 LOS ANGELES, CALIF.

QTY	SIZE	DESCRIPTION OF MATERIALS, SPECIFICATIONS, ETC.	UNIT PRICE	TOTAL PRICE
25	10	30 BARS WILD STEEL 3/4" X 2" X 20'		
10	0	20 BARS WILD STEEL 3/4" X 2 1/2" X 20'		
15	0	7 BARS WILD STEEL 3/4" X 3" X 20'		
0	0	16 BARS WILD STEEL 3/4" X 3 1/2" X 20'		

NOTE: MAY BE PURCHASED IN LENGTHS OVER 20' BUT NOT UNDER.

APPROVED: J. JAMES

Right—Fig. 4. Bid Abstract Prepared from Fig. 2 by Purchasing Department in Same Operation as Fig. 3

SOUTHERN PACIFIC COMPANY
PACIFIC LUMBER
REQUISITION FOR QUANTIFICATION
San Francisco, California, JANUARY 15, 1938

A. B. C. STEEL CO
10 BLANK ST
SAN FRANCISCO CALIF.

Rep. No. 12345
Bid No. 789

Please quote REASON your lowest price for the following: A. B. C. STEEL CO SAN FRANCISCO, CALIF.
Class 4 p.m. JANUARY 19, 1938

QUANTITY	THIS IS NOT AN ORDER	PRICE
30	BARS WILD STEEL 3/4" X 2" X 20'	
10	BARS WILD STEEL 3/4" X 2 1/2" X 20'	
7	BARS WILD STEEL 3/4" X 3" X 20'	
16	BARS WILD STEEL 3/4" X 3 1/2" X 20'	

SHIPPED FROM in United States with Rail Header and Chasing Lines to lower left hand corner.

Under reference material any kind of material information shown on this bid sheet is for your guidance and does not necessarily require your attention on the part of the requisitioner. For your information, the following information is given: Material, Brand, Quality, Country of origin or other trade designations when price can be made on other than price specified.

Shipment can be made within _____ days from receipt of order. Cash payment of _____ % will be allowed for payment.

It is understood no charge will be made for Postage, Freight, etc., and all other prices quoted and their own terms right to accept or reject quantities on such time separately or as a whole.

Classed in _____ THIS IS NOT AN ORDER (S.P.C.)

Fig. 3. Inquiry for Prices,
Produced from Fig. 2 by
Purchasing Department After
Adding Firm Name, etc.

ABSTRACT OF BIDS

Order No. _____ Date _____ San Francisco, California, JANUARY 15, 1938

With _____

Order No. _____ Date _____

With _____

Order No. _____ Date _____

With _____

Rep. No. 12345
Bid No. 789

F. O. B. CO. SAN FRANCISCO, CALIF.
Class 4 p.m. JANUARY 19, 1938

QUANTITY	DESCRIPTION	F. O. B.	F. O. B.	F. O. B.	F. O. B.	F. O. B.	F. O. B.
30	BARS WILD STEEL 3/4" X 2" X 20'						
10	BARS WILD STEEL 3/4" X 2 1/2" X 20'						
7	BARS WILD STEEL 3/4" X 3" X 20'						
16	BARS WILD STEEL 3/4" X 3 1/2" X 20'						

Checked on by _____

Quantity Price _____

Using Unit, Approved _____ Executive Dept. Approved _____

Purchase Recommended as Indicated _____

From AAA Date On A.B.C. Steel Co. San Francisco STOREKEEPER'S REQUISITION
 F.O.B. San Francisco LOS ANGELES, CALIF. (Prepared At)
 Inspection At Destination Jan 10, 1938 (Date of Req)
 Inspection At Destination Jan 15, 1938 (Date of Bid)
 Inspection At Destination Jan 25, 1938 (Date of Order)
 Written by H. Meyer Order No. 3456
A.B.C. STEEL COMPANY Rep. No. 12345
10 BLANK STREET Bid No. 789
SAN FRANCISCO, CALIF. JANUARY 15, 1938

Please ship following
 cons of
 ASST. GENL. STKPR. STORE 4/1 LOS ANGELES, CALIF.

QTY	SIZE	DESCRIPTION OF ARTICLES, CATALOGUE REFERENCE, ETC.	UNIT PRICE	TOTAL PRICE
25	10	30 BARS WILD STEEL 3/4" X 2" X 20'	2.20 CWT	55.00
12	0	10 BARS WILD STEEL 3/4" X 2 1/2" X 20'	2.20 CWT	26.40
15	0	7 BARS WILD STEEL 3/4" X 3" X 20'	2.50 CWT	37.50
0	0	16 BARS WILD STEEL 3/4" X 3 1/2" X 20'	2.50 CWT	40.00
INSPECTION AT DESTINATION			NET 30	
F.O.B. SAN FRANCISCO, CALIF. FREIGHT				
ALLOWED TO DESTINATION.				
SHIP FEBRUARY 15, 1938				

NOTE: MAY BE PURCHASED IN LENGTHS OVER 20'
 BUT NOT UNDER.

APPROVED: J. J. JAMES APPROVED: T. REAGAN

Left—Fig. 5. Bid-Master Produced from Fig. 3 by Purchasing Department After Adding Prices

G. H. SOUTHERN PACIFIC COMPANY
 San Francisco, California, JANUARY 22, 1938

A.B.C. STEEL COMPANY
 10 BLANK STREET
 SAN FRANCISCO, CALIF.

Order No. 3456
 Rep. No. 12345
 Bid No. 789

Please ship following to SOUTHERN PACIFIC COMPANY,
 cons of
 ASST. GENL. STKPR. STORE 4/1 LOS ANGELES, CALIF.

30	BARS WILD STEEL 3/4" X 2" X 20'
10	BARS WILD STEEL 3/4" X 2 1/2" X 20'
7	BARS WILD STEEL 3/4" X 3" X 20'
16	BARS WILD STEEL 3/4" X 3 1/2" X 20'
INSPECTION AT DESTINATION	
F.O.B. SAN FRANCISCO, CALIF. FREIGHT	
ALLOWED TO DESTINATION.	
SHIP FEBRUARY 15, 1938	

SEE REVERSE SIDE FOR CONDITIONS AND INSTRUCTIONS

Above—Fig. 6. Produced from Fig. 5 Prices Omitted by Folding Flap

G. H. SOUTHERN PACIFIC COMPANY
 San Francisco, California, JANUARY 22, 1938

A.B.C. STEEL COMPANY
 10 BLANK STREET
 SAN FRANCISCO, CALIF.

Order No. 3456
 Rep. No. 12345
 Bid No. 789

Please ship following to SOUTHERN PACIFIC COMPANY,
 cons of
 ASST. GENL. STKPR. STORE 4/1 LOS ANGELES, CALIF.

30	BARS WILD STEEL 3/4" X 2" X 20'	2.20 CWT
10	BARS WILD STEEL 3/4" X 2 1/2" X 20'	2.20 CWT
7	BARS WILD STEEL 3/4" X 3" X 20'	2.50 CWT
16	BARS WILD STEEL 3/4" X 3 1/2" X 20'	2.50 CWT
INSPECTION AT DESTINATION		NET 30
F.O.B. SAN FRANCISCO, CALIF. FREIGHT		
ALLOWED TO DESTINATION.		
SHIP FEBRUARY 15, 1938		

SEE REVERSE SIDE FOR CONDITIONS AND INSTRUCTIONS

Left—Fig. 7. Purchase Order Produced from Fig. 5 with Prices Shown

paring bids and orders, two blockouts are required, one for preparing bids and the other for orders.

A good grade of hectograph carbon, size 8½ in. by 8½ in., is used. It has been found that by turning the square carbon once to the right after its first use in the store, the second writing will be to the greatest possible extent on fresh ink, which would not be the case if the carbon were merely reversed for the second writing by putting the bottom of the sheet at the top. After the carbon is used the second time in the store department it is forwarded to the purchasing department where it is used a third time in connection with the insertion of bid and order information on the requisition-master. This reduces to a minimum the amount of hectograph carbon required.

Corrections Made Easy

Minor corrections in the hectograph impression on the reverse side of the requisition can easily be made by means of a white correction pencil, and one or more lines can be eliminated from the copy by placing a strip of transparent mending tape over the hectograph impression of the matter to be deleted.

Figure 1 is an example of the requisition-master filled out as it would be prepared by the store, with certain lines and spaces left blank for the purchasing department. Signatures are affixed in the usual manner. In this connection, it should be noted that unless a hectograph carbon is used, any writing on the face of the

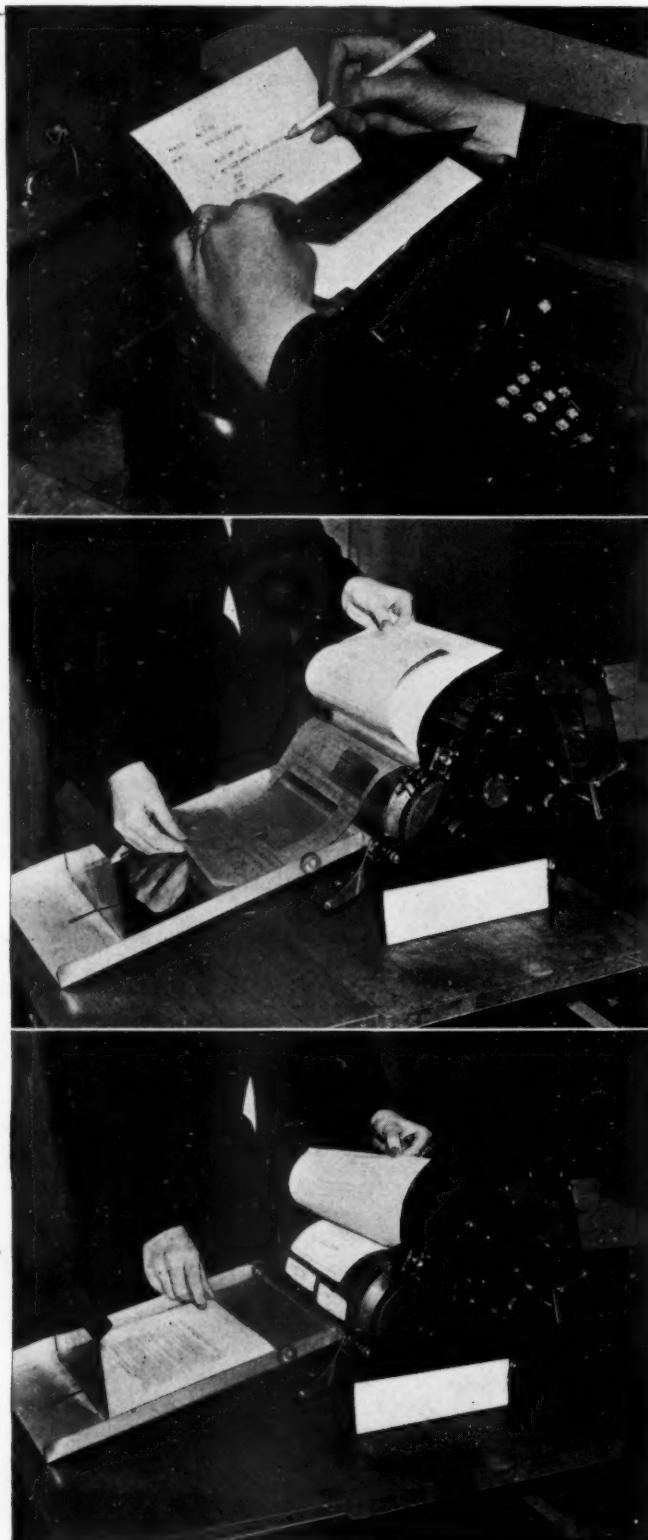
form will have no effect on the master and hence will not appear on copies made from it. Accordingly the requisition-master can be used as a work sheet without interfering with its subsequent use as a master for duplicating purposes. Copies reproduced from the requisition-master in the store by a spirit duplicator consist of reproductions for the storekeeper's requisition record, the general storekeeper's requisition record, the general stock book record, the section stockman's record and a file copy.

Fig. 2 is the storekeeper's requisition after information has been added in the purchasing department to convert it for use as a bid-master, this information having been added by the purchasing department typist in accordance with instructions of the buyer.

Figs. 3 and 4 are a finished bid and abstract in which a blockout has been used to avoid showing the point of preparation of the requisition, its date, its destination, amounts of material on hand and due, information in the purpose column and all information appearing below the second double line from the bottom of the form. This information is of no interest to bidders. The names and addresses of bidders on bids and abstracts are typed individually—not duplicated.

Quick Work on Orders

After running off bids, the bid-master (requisition), is filed away until the bids are closed and the order is about to be placed. The buyer fills in the upper left-



Steps in Printing Bids and Orders

Top—Making Minor Corrections while Typing Original. Center—Inserting Templates to Prevent Printing Certain Information on Bids. Bottom—Master and Template Ready for Printing Orders to Supply Firms.

hand corner with pen or pencil and inserts the prices. A purchasing department typist, using a hectograph carbon, then adds the new information to the bid-master as shown in Fig. 5, using the blank column on the right-hand side of the sheet for prices. The form then becomes the order-master for reproducing all copies of purchase orders.

The order form has an extension at the right side.

When it is desired to show prices on copies of the order but not on the original this extension is folded over a portion of the face of the order form as it is run through the duplicator and the price information is printed on the extension instead of on face of order. The extension is then detached and discarded. When prices are to be shown on the original order the extension is detached before it is run through the duplicating machine.

The order shown in Fig. 6 carries no price information and shows the extension still attached. Fig. 7 is the same order with prices shown, the extension having been detached. In reproducing the purchase orders, blockouts are used to avoid reproducing the point of preparation of the requisition, the date of the requisition, the date of the bid, the f. o. b. point on the bid, the closing date of the bid, the amounts of material on hand and due, information in purpose column and all information appearing below the last double line at the bottom of form.

This method of preparing orders not only reduces the elapsed time between requisitioning and ordering stock materials but also the cost of issuing bids and orders. Most important, these advantages have not been accomplished at the expense of the stores department where the writing of requisitions under the new method is, if anything, more convenient and faster.

ICC Examiner Would Wipe Out MOP Stocks

WASHINGTON, D. C.

COMplete severance of the Missouri Pacific from the so-called Van Sweringen rail "empire" would be accomplished if the Interstate Commerce Commission agrees with a proposed plan of reorganization for that road written by its Examiner, R. H. Jewell, and the plan is acceptable to the road's security holders. Examiner Jewell's proposed plan, which was issued by the commission on October 25, follows the trend of other proposed and final plans of the commission in that it strives toward the goal of a "depression-proof" capital structure by reducing the MOP's capital structure from \$671,205,664 to \$553,898,000, a reduction of \$117,307,664 and completely obliterates the preferred and common stock of the old company.

Fixed Charges Are Drastically Reduced

Besides drastically reducing the fixed interest charges from \$24,770,052 to \$7,414,265, Examiner Jewell also proposes to consolidate the 24 railroad companies and the three non-carrier subsidiaries of the present Missouri Pacific system into one company. The I. C. C. examiner also would have the commission find that the present \$70,190,100 of preferred stock and accumulated dividends and \$82,174,143 of common stock are without value and he would accord the holders thereof no participation in the securities of the reorganized company.

The proposed plan of Examiner Jewell will next be passed upon by the commission following oral argument of the examiner's report. Following the oral argument the commission's final plan, which probably will not be forthcoming before the early part of next year, will be certified to the United States District Court in St. Louis and then submitted to the security holders for a vote before becoming effective. If precedent is of any value in predicting commission action, it is highly probable that the commission will accept Examiner Jewell's pro-

posed findings, making only minor changes to suit the tastes of individual commissioners. It is to be noted that in all of the final plans approved by the commission to date in reorganization cases and also in other cases of considerable importance, the commission has followed closely the conclusions of the examiner in charge of the case.

Observers feel that this proposed plan, if accepted by the commission, will probably provide the means whereby Section 77 of the Bankruptcy Act will be tested in the courts, ending ultimately with a decision from the United States Supreme Court. The reason for this belief lies in the fact that MOP is one of the larger roads in reorganization and the stake of the common and preferred stockholders, largely represented by the men formerly in control of the Van Sweringen group of roads, is a large one. The management of the old company has made a strenuous fight to date to convince the commission that its interests are of definite value and should not be wiped out when the company is reorganized. It is unthinkable that they will accept the philosophy of the instant plan without a long and costly legal struggle.

The commission has under consideration another proposed report on the Chicago & Eastern Illinois, a Van Sweringen property, which would turn control of the road over to the bondholders as Examiner Jewell proposes to do in this case.

Old and New Capitalization Compared

The following table compares the capitalization of the proposed new company immediately upon reorganization with the present capitalization of the system, exclusive of delinquent interest and unpaid cumulative preferred dividends:

	Capitalization after reorganization	Present system
Fixed interest debt		
Equipment obligations	\$16,743,000	.....
Plaza-Olive Bldg. 15-yr. first mtge. bonds ..	711,500	.....
First-mortgage bonds	156,841,000	.....
10-year notes	14,434,000	.....
Total	188,729,500	\$505,033,721
Contingent interest debt		
General-mortgage bonds	99,903,500	13,807,700
Preferred stock		
Prior-preferred	46,918,500	.....
Second-preferred	62,059,500	.....
Total preferred	108,978,000	70,190,100
Common Stock	*156,287,000	82,174,143
Total capitalization	553,898,000	671,205,664

* No-par-value. Value of \$100 a share assumed. Does not include any additional amount to be issued in settlement of general unsecured claims.

In the following table the examiner gives a comparison of the annual charges of the new company with those of the present system:

	Annual Charges after reorganization	Present system
Fixed interest	\$7,414,265	\$24,770,052
Capital expend. fund (est.)	2,700,000	.....
Contingent interest	4,404,848	828,462
Sinking fund payments on conting. int. debt ..	500,000	.....
Total charges prior to dividends on stock ...	15,019,113	25,598,514
Preferred dividends		
Prior-preferred	\$2,345,925	.....
Second-preferred	3,102,975	.....
	5,448,900	3,509,505
Total annual charges	20,468,013	29,108,019

Under the proposed plan, holders of the several series of MOP first and refunding 5s, with a total principal claim of \$223,190,500 plus \$49,624,653 of interest, would receive \$1,511,000, or 0.5 per cent in cash for interest; \$55,798,000, or 20.5 per cent in first mortgage series B

4 per cent bonds; \$12,275,500, or 4.5 per cent in general mortgage series A cumulative income 4s; \$67,053,000, or 24.6 per cent in general mortgage convertible income 4½s; \$32,362,500, or 11.9 per cent in prior preferred 5 per cent stock; \$55,701,000, or 20.4 per cent in second preferred stock; and \$48,113,500, or 17.6 per cent in no par common stock.

Would Leave Equipment Trusts Undisturbed

The plan would leave undisturbed \$15,082,000 of MOP equipment trust certificates, \$692,000 of New Orleans, Texas & Mexico equipment trust certificates, and \$969,000 of International Great Northern equipment trust certificates.

The Reconstruction Finance Corporation, with a principal claim of \$23,134,800 and an interest claim of \$6,013,849, would receive \$23,135,000, or 79.4 per cent of the total claim in new first mortgage series A 3¾ per cent bonds plus \$418,000 in cash for interest and \$5,596,000 or 19.2 per cent in new no par common stock.

The following obligations would be satisfied in full by new 10-year collateral trust 3½ per cent notes, together with small cash payments for accrued interest: Pacific Railroad of Missouri first 4s of 1938; Pacific Railroad of Missouri Carondelet branch first 4½s; Pacific Railroad of Missouri second 5s of 1938; Missouri Pacific third 4s of 1938; and Pacific Railroad of Missouri real estate 5s of 1938.

The proposed plan contemplates that a bank debt of \$5,850,000 plus interest of \$1,562,212 would be satisfied by \$5,850,000 in first mortgage series A 3¾ per cent bonds, representing 78.9 per cent of the total claim and \$1,500,000 of 20.2 per cent in no par common stock together with a cash payment of \$62,000 or 0.9 per cent for interest.

Holders of general mortgage 4s of 1975 would receive 100 per cent of both principal and interest in no par common stock. The serial 5¼s, 1933-1956, would get 38 per cent of their claim in common stock or \$5,844,500, while the convertible 5½s of 1949 would get 23.4 per cent of their claim in no par common or \$13,648,000.

The St. Louis, Iron Mountain & Southern River & Gulf division 4s would be paid off in full in first mortgage series B 4 per cent bonds together with a small cash interest payment. Holders of the Plaza-Olive Building 6s, with a total principal claim of \$703,000 with interest of \$52,725, would receive \$711,500 of new Plaza-Olive Building first mortgage bonds.

Disposition of Cairo & Thebes Claims

Holders of the Cairo & Thebes first 4s, with a principal claim of \$1,699,000 and interest of \$22,653, would get 54.2 per cent of the total claim in first mortgage series B 4s; 24.3 per cent in general mortgage series B convertible income 4½s; 20.2 per cent in second preferred stock and 1.3 per cent in cash, the latter amount representing interest.

The Boonville, St. Louis & Southern first 5s would get 22 per cent in first mortgage series B 4s and 22 per cent in new common stock. The Central Branch first 4s of 1948 would receive 17.2 per cent in first mortgage series B 4s; 28.2 per cent in general mortgage series B 4½s; 12.5 per cent in prior preferred; 28.1 per cent in second preferred and 14 per cent in common stock.

The Little Rock & Hot Springs Western first 4s would receive 38.9 per cent in new prior preferred stock; (Continued on page 636)

Bridge and Building Men Hold Intensive Meeting



Crowded program of reports, addresses and special features holds interest and stimulates lively discussion at forty-fifth annual convention in Chicago

Part I

THE forty-fifth annual convention of the American Railway Bridge and Building Association, which was held at the Hotel Stevens, Chicago, on October 18-20, was one of the most constructive meetings in the long history of that organization. The convention was opened with an address by A. N. Williams, president of the Chicago & Western Indiana, and the Belt Railway Company of Chicago, and with greetings from the American Railway Engineering Association and the Roadmasters and Maintenance of Way Association. The former was represented by its president, F. E. Morrow, chief engineer of the Chicago & Western Indiana, and the Belt Railway Company of Chicago, while the greetings from the latter were conveyed in a letter from A. H. Peterson, president of the association and managing editor of the Railway Engineering and Maintenance Encyclopedia.

Full Program of Reports and Addresses

In the following sessions, all of which were presided over by President C. Miles Burpee, research engineer, Delaware & Hudson, eight committee reports were presented, covering a wide diversity of problems arising in the maintenance of railway structures. In addition, there were three addresses on timely subjects of interest to bridge and building men—one by R. A. Van Ness, bridge engineer, Atchison, Topeka & Santa Fe System, on Lessons To Be Learned From Recent Bridge Failures; another, by J. E. Long, superintendent of safety, Delaware & Hudson, on Safety in These Days of Reduced Forces; and the third by L. P. Kimball, engineer of buildings, Baltimore & Ohio, who spoke on Current

Trends in the Design of Railway Buildings. Technical reports were presented on Meeting Today's Demands With Cranes and Pile Drivers; Recent Developments in Field Methods in the Construction of Timber Trestles; The Maintenance of Movable Bridges; Pipe Lines for Railway Water Service; The Maintenance of Cinder Pits; The Insulation of Railway Buildings; The Inspection and Preparation of Wood Surfaces for Painting; and The Possibilities and Limitations of the Acetylene Cutting Torch.

Other features of the program included an evening of motion pictures on Tuesday, showing Heat and Its Control, presented by Johns-Manville, and the erection of the Golden Gate bridge, presented by the Bethlehem Steel Company; the annual luncheon on Wednesday, where 147 members and guests were addressed by Samuel H. Cady, vice-president and general counsel of the Chicago & North Western, on What Is Ahead for the Railroads; the annual dinner on Wednesday night, and a trip through the Underwriter's Laboratories on Thursday afternoon, where members were given an opportunity to learn of the work of this organization in the interest of safety and fire prevention, and to witness several impressive tests of fire-fighting equipment.

In his address to the association at the opening session, President Burpee reviewed the activities of the association during the last year; spoke of its accomplishments; and then urged renewed interest on the part of members to the end that, in spite of any difficulties that may lie ahead, the association will press forward to greater service and usefulness to its members and to the railways they represent.

In the election of officers at the final session, Armstrong Chinn, chief engineer, Alton, Chicago, was advanced to president, while F. H. Cramer, assistant bridge engineer, Chicago, Burlington & Quincy, Chicago; A. E.

Bechtelheimer, assistant bridge engineer, Chicago & North Western, Chicago; H. M. Church, general supervisor bridges and buildings, Chesapeake & Ohio, Richmond, Va.; and R. E. Dove, assistant engineer, Chicago, Milwaukee, St. Paul & Pacific, Chicago, were elected first, second, third and fourth vice-presidents, respectively. C. A. Lichty was re-elected secretary-treasurer, and the following were elected directors: B. R. Meyers, assistant engineer, Chicago & North Western, Sioux City, Iowa; W. Walkden, bridge engineer, Canadian National Railways, Winnipeg, Man.; A. S. Krefling, assistant engineer, Soo Line, Minneapolis, Minn.; W. R. Ganser, master carpenter, Long Island, Jamaica, N. Y.; and F. H. Soothill, chief building estimator, Illinois Central, Chicago.

The attendance of railway men at the convention exceeded 175, larger attendance than in 1936 and one of the largest during the depression years. The secretary reported that 35 new members had been taken into the association during the year. Chicago was selected as the convention city for 1939.

Deviating from its usual practice because of the generally unfavorable business conditions, the Bridge and Building Supply Men's Association did not hold an exhibit in conjunction with the convention, but, at its annual business meeting on Thursday, re-elected its present officers and members of its Executive committee with one exception. The present officers are, therefore, President, K. T. Batchelder, manager railroad sales, Insulite Company, Chicago; vice-president, Earl A. Mann, director of sales, Standard Brake Shoe & Foundry Company, Pine Bluff, Ark.; treasurer, Harry A. Wolfe, The Lehon Company, Chicago; secretary, W. S. Carlisle, representative, National Lead Company, Chicago; honorary director, L. F. Flanagan, representative, Detroit Graphite Company, Chicago. Members of Executive committee — G. W. Anderson, Patterson-Sargent Company, Chicago; A. J. Filkins, general manager, Paul Dickinson, Inc., Chicago; G. W. Morrow, sales engineer, Ingersoll-Rand Company, Chicago; C. C. Rausch, assistant to sales manager, Dearborn Chemical Company, Chicago; and E. E. Thulin, district manager, Duff-Norton Manufacturing Company, Chicago. The new member elected to the Executive committee was C. E. Ward, railroad sales manager, U. S. Wind Engine & Pump Company, Batavia, Ill., who succeeded Guy C. Mills, Zitterell-Mills Company, Webster City, Iowa.

Abstracts of some of the papers and addresses presented at the convention are given on the following pages. Others will be published in the next issue.

Williams Urges Co-operation In Solving Railroad Problems

In the opening address of the convention, A. N. Williams, president, Chicago & Western Indiana, and the Belt Railway Company of Chicago, discussed briefly the increased problems which are confronting bridge and building men today in their work as the result of the increased tempo of railway operation and the prolonged business depression, and then, turning to the broader problems confronting the railways, he pointed out at some length "the very serious situation in which the railways find themselves today"; stressed particularly the difficulties which have arisen in connection with the present wage case; and called upon those present to make every effort in their daily contacts to help bring before the public the true picture of the railroad situation. Mr. Williams said, in part, as follows:

"For the last eight years the railway industry has had particularly hard sledding. Our income has been reduced and our expenses have increased heavily, and despite all of the work and money we have put into improved facilities to increase operating efficiency, we have not been able to overcome the obstacles over which we have no control. Our railroad troubles are not due in any large and general measure to conditions within the industry itself. Competition has taken 20 per cent of the business away from the railroads, and has removed an equal or greater amount of labor from the railroads. Unless railroad transportation can compete in cost with other forms of transportation, the railroads will lose the business and railroad employees will lose their jobs.

"You supervisory officers know that railroad management is interested in its employees. We try to understand their problems; we try to give them good, clean, healthful and safe working conditions. No industry can claim a better record than the railroad industry in its desire to pay its employees a fair wage. I can assure you that management would much rather increase the wages of its employees, if revenues and earnings would permit. The railroads have always permitted the participation of their employees in prosperity by constantly increasing wages. The employees, in turn, should recognize, for their own security, that those who enjoy more in periods of prosperity must meet the situation by getting less in periods of depression.

"The probable effect of excessive taxation of both industry and the worker is a matter of very serious concern. This should have the careful thought of all employees themselves and of their bargaining representatives. Further increases in taxes mean higher costs to the worker in the payment of 'indirect taxes'; they also mean less security of employment for railroad workers.

"Beginning in 1933, governmental policies with respect to agriculture and industry have been to increase wages and the sale price of the products of agriculture and industry. These policies have increased the cost of materials which the railroads must buy. In addition, social security and the railroad pension taxes have added to their burdens. All this means just that much less money available for the payment of wages.

"We must not lose sight of the fact that the railroads are not free to increase the price of their product — transportation — to ease the burden of the increased cost of operation, the same as other industries. We must remember also that a price cannot be charged for a service or product above that which the public can pay. The present average wholesale price of all farm products is now 31 per cent lower than in 1926, while the average hourly wage of railroad employees is 19 per cent higher.

"There has been a tendency of late for certain groups of employees to demand more pay for less work, without any regard to the matter of what such demands would mean to the companies by which they are employed. If these same workers made the same effort to increase the business of their companies and to improve their net earnings, their companies would then be able to pay higher wages with no danger to their financial positions or to that of their workers.

"There is no question but that there is a dire need for more enlightenment of our employees concerning our political and economic problems. This can be accomplished only by a spirit of trust and confidence between the workers and management, and by placing before the workers, in plain, simple language, the facts involved in our particular problems. In other words, both workers and management must realize that the prosperity of one is dependent upon the prosperity of the other."

At this point, Mr. Williams outlined the program of

the Association of American Railroads for the solution of the problems confronting the railways, discussing separately, equality of treatment; restrictive and expensive laws; reductions in operating expenses; revision of rate-making practices; regulation of water transportation; repeal of land-grant rates; federal barge lines; loans to railroads; consolidations and co-ordinations; labor legislation; fair taxation; tolls for commercial use of inland waterways; grade crossings and bridges; and highway and waterway operations.

In conclusion, Mr. Williams said:

"The railroads are controlled and restricted on a 50-year-old theory that they exercise a monopoly—yet they are called upon today to compete for business against every other form of transportation. What railroad men want is simply equality and the same freedom of judgment and initiative in running their business that are enjoyed by every successful business in America.

Lessons To Be Learned From Recent Bridge Failures

By R. A. Van Ness *

There are in service on the Class I carriers about 192,000 bridges having a combined length of more than 3,900 single-track miles. Further, on the 380,000 track miles of these roads, there are more than 585,000 culverts. When we stop to consider the enormity of these bridge properties, I know that you will be surprised, as I was, to learn of the few accidents that have been chargeable to bridge failures. I tabulated the number of such accidents occurring from 1929 to 1936, inclusive, and found there were 29, only 4 of which resulted in injury or death. For the 8 years from 1921 to 1928, inclusive, there were 73 reportable accidents. From January, 1934, to August, 1938, 12 accidents occurred in which bridges were involved directly or indirectly. These accidents were of the following types:

(A) Undermining of substructures—It is important to check the ravine section periodically with that of the as-built bridge to ascertain whether the stream bed may have lowered enough to cause concern for the foundations.

(B) Timber trestle bridges weakened by fire—Fire-protection covering for the horizontal surfaces of timber, at least for caps and stringers, is advisable, and the cutting of weeds and the removal of brush from around the piles and bents are essential. Fire-wall construction may be warranted.

(C) Collapse of span resulting from decayed timber piles in piers—Exposed timber piling should be checked periodically by a sounding rod to discover decay below the ground line, and by a hammer to ascertain any unsoundness above the ground line. A close watch must be kept for termites, as even treated piles may become infested.

(D) Washouts at the ends of timber trestles—This class of accidents is not charged against the bridge, but to a washout. Nevertheless, we appreciate that timber bulkheads are generally vulnerable to high water; that bulkhead plank should be carried well below the ground line; and that the use of rip-rap should not be stinted.

(E) Collapse of pile trestle converted to a frame trestle—Converting a pile trestle to a frame trestle by sawing off and capping the piles is good construction, provided the piles have adequate penetration, and that sufficient longitudinal bracing is installed. Under certain

conditions, the use of special appliances is necessary between the bracing timbers and the piles or posts to insure the stability of the structure, which cannot always be secured by bolts alone.

(F) Spans on curves, not anchored—Superstructures on curves are readily retained in position by anchoring the spans to the substructure. If grillages of any type carry the superstructure load to the main support, they should be well tied together and definitely anchored to the substructure.

(G) Collapse of a timber trestle as a result of excess removal of bracing during maintenance work—Particularly in the case of higher structures, it is necessary to have a program, worked out in advance, giving the field forces a schedule of operations to be followed. For a high trestle on a curve this procedure is vital.

(H) Insufficient penetration of piles to resist collapse from scouring action—Determining when a pile structure is liable to failure under scouring action is one of the most difficult problems the bridgeman has to contend with. A full stream over a scouring stream bed calls for a cessation of traffic if there is any doubt as to the adequacy of penetration of the piles.

There are few who have not experienced, during the last few years, the speeding up of old power and the operation of new and heavier power at high speeds. Your 30- and 40-year old steel spans are now carrying loads much heavier than those for which they were designed. Under such conditions, we know that the steel stresses are raised well above the original design stresses, but we also know that if the various details of the structure are kept in proper condition, we can raise the unit stress in the main members, so long as it does not exceed those limits generally accepted as adequate. The ends of spans should be kept level so no twist is put in the spans. Plates digging into the masonry can be raised on iron filings. The top lateral angles of many old truss spans are quite long and very light. Adding section to these angles will stiffen the system and insure a more rigid holding of the top chord members.

Many old through truss spans, with eye-bar lower chords in the center panels, are limber under high-speed train operation, with consequent side thrust. These spans can be stiffened by adding stiff members in each panel parallel to the chords to take the working action off the floor beams at the connections to the posts.

Deferred maintenance painting of steel spans becomes very costly if carried to the point where rust forms between surfaces. This shows up particularly where stitch rivets are lacking, in such places as the top chord splice plates on old truss spans.

The increased axle loads of new power and the added dynamic augment of old power operated at high speeds, stress the connection angles of stringers and floor beams of old bridges to the point where cracks may develop in the fillets or at rivet lines. There are still many connection angles in service which were rolled from Bessemer steel and wrought iron. These must be watched for failure closer than open-hearth angles.

The strengthening of old bridges by welding is coming more and more into prominence and offers an economical and effective means of getting results. However, a word of caution is necessary, namely, that no welds be made across the line of stress of main members, in particular.

We all are squeezing more value out of our old bridges than we could have thought possible 10 years ago. This desirable situation is due in no small degree to the interchange of ideas which takes place at the yearly meeting of your association.

* Bridge Engineer, System, Atchison, Topeka & Santa Fe.

The comments which followed presentation of the paper had to do largely with the importance of keeping a close check on old foundations, and methods of repairing such foundations and failing masonry substructures above them. These comments brought out the fact that foundation failures can usually be detected by cracks showing up in the substructure masonry, and that any such evidences of failure should be given prompt attention or be watched closely. To a question raised concerning the repair of such foundations, Mr. Van Ness said that they should be examined carefully by excavating around them, to determine the exact condition that prevails. "More often than not, in the case of old timber grillages," he said, "it has been found necessary to rebuild the foundations completely rather than attempt to repair them." At another point, Mr. Van Ness stressed the importance of continually watching foundations and stream beds for evidences of wash or scour.

Concerning the repair of old stone masonry substructures, it was brought out that considerable work of this nature has been done by the Santa Fe, largely through repointing the old masonry with a dry mortar, and by the New York Central, by internal grouting. In the regrouting method, it was explained, core drill holes are driven down through the center of the masonry from the top, and then lean grout is poured into them, which finds its way into the voids throughout the structure.

Current Trends in the Design of Railway Buildings

By L. P. Kimball*

As a result of the rapid expansion of the railways during the last century, railway officers charged with the design, construction and maintenance of railway buildings have been faced with a continuous and rapid increase in the diversity of their problems. Types of railway equipment, methods of operation, economics and the requirements of the public have largely controlled the general design of existing buildings. Numerous changes and developments in all of these factors in recent years have brought on many new problems which must now be taken into account in meeting current requirements.

There are many unused buildings on the railways today, and when it becomes clear that there is no prospect for further economical use for these structures, they should be removed to eliminate maintenance expense, taxes and insurance. Many of the older buildings that are still required for railway service are lacking many features that would be provided quite naturally today in the construction of a new building. In the case of certain of these structures, where the public is served, such as passenger stations, there is frequently a demand from local or state authorities, or from civic organizations, for their replacement by a new building. Oftentimes, where the structural condition of the old building justifies, these demands may be satisfied economically by the modernization of the existing structure, both as regards improvements in appearance and appointments, so that the result will compare favorably with a new building.

The opportunities for modernization are by no means confined to passenger stations. Structures for all classes of service, and particularly the equipment in them, offer many cases where an intelligent approach to the problem will result in increased service life and more economical operation. A few of the many such possibilities are as follows:

Storehouse rearrangement, with the use of steel shelving and bins; the installation of electrically-operating drafting units, pumps and compressors at engine terminals to permit the shutting down of steam boilers, except during the heating season; the installation of modern drop pit tables for unwheeling locomotives in engine houses; the application of automatic burners to heating plants where such action will result in economy of operation; and changing center-bearing turntables to the three-point-bearing type to permit the handling of locomotives which cannot be balanced on the old tables.

The use of electric and Diesel-electric streamlined trains has made it necessary to devise facilities that will provide for the rapid servicing of these units at terminals. The co-ordination of railway and highway services has also, in some instances, made it necessary to adapt existing buildings for use as garages, or to design and build new ones for that purpose. Where pick-up and delivery service is in effect, new construction should take into account the fact that the inbound platform will not require as much floor space as was formerly the case. In the handling of co-ordinated passenger service, it has frequently been found necessary to provide off-line stations for motor bus passengers, with ticket offices, waiting rooms, toilet facilities and sometimes space for the handling of buses clear of city streets.

The present trend toward the increased length of freight cars must be watched carefully for its possible effect on facilities to be used by them. Then, there is a current trend towards the adaptation of new buildings to the community they are to serve. This is, of course, true particularly in the case of new passenger stations, and is accomplished in the architectural design, interior decoration and appointments.

While not necessarily a recent trend, the improvement of water station and water treating plants is still an important consideration. The methods of design and construction of these plants along lines that will secure a uniformity of treatment, and thereby maximum benefit, are of large importance. Manufacturers of coal and ash-handling equipment have made available in recent years mechanical units readily adaptable to installations requiring relatively small capacity, and these small units can be installed economically at many points where they will provide a substantial saving over present methods of operation.

Air conditioning on the railways as regards buildings has been limited to date, but the railway building engineer has already been confronted with this problem many times in connection with railway-owned hotels, restaurants, and city ticket offices, and there is a distinct possibility that air conditioning will be used in certain passenger stations.

Ingenuity and research on the part of manufacturers of all lines of building materials have resulted in the availability of many new and useful products, including thermal building insulation, glass brick or block, copper-bearing steel, genuine wrought iron, asbestos-protected metal, lead-coated steel, and aluminum and Monel metal. Other products include special types of roof construction, rivet-bolts, asbestos-cement shingles, and aluminum powder and casein paints.

The intelligent use of creosoted timber, or of wood treated with other preservatives, deserves careful attention. While the principal use of treated timber on the railways has been confined largely to ties and bridge material, there are many buildings in which this material can be used to good advantage. The problem of the mechanical handling of material is another one occurring frequently in the railway field. Various types of conveyors, monorails and chutes have been used successfully for the handling of mail, express, etc. Other unusual,

* Engineer of Buildings, Baltimore & Ohio.

yet interesting, uses of mechanical equipment include escalators in passenger stations and the application of photo-electric cells for the automatic opening of doors.

The various developments in methods of construction are too numerous to be covered in detail in this general treatment of the subject, but mention is made of concrete prepared at central mixing plants, paint spraying, and the use of welding for both structural assemblies and pipe installations. Structural welding in buildings has been restricted by the building codes of most cities, but since New York and several other important municipalities now permit such welding under suitable restrictions, I am of the opinion that development along this line will become increasingly rapid.

Field Methods in the Construction of Timber Trestles

Many important developments have been made in recent years in the methods employed in constructing timber trestles, according to the committee reporting on this subject, of which A. S. Krefting, assistant engineer, Minneapolis, St. Paul & Sault Ste. Marie, at Minneapolis, Minn., was chairman. These, it was pointed out, can be segregated into the following classifications:

(1) The practice of making a preliminary investigation and survey to determine the requirements of the new structures;

(2) The improvement of the procedure for advance planning to carry out the work in the most efficient and economical manner;

(3) The preframing of timber and improvements in general detail;

(4) The increased use of power tools to supplement hand tools; and

(5) The improvement in pile-driving equipment.

In considering these developments, the committee placed special emphasis on the importance of a preliminary survey and advance planning in connection with the construction of any particular structure. Before any plans are made for building a timber trestle, it said, a survey should be made to determine the main requirements to be met. The principal features to be considered in this survey, it pointed out, are those which will affect the length of the new trestle, its grade line and alignment, and the proper spacing and design of the trestle bents. All available information, it cautioned, should be secured with regard to trestles spanning streams as to the high and low water stages, the velocity of the stream during high water periods, and the possibility and probable extent of any scour.

Concerning advance planning, the committee recommended that all of the work of rebuilding timber trestles should be programmed for the working season as a whole, consideration being given to all factors which warrant carrying out certain projects at a specific time, such as traffic or channel conditions. Other factors which should be kept in mind, the committee said, are the kind and quantity of equipment to be used; the method of construction to be followed; the determination of the most suitable place for storing piling and timber; and the best place for setting out outfit cars and for tying up work trains.

In the opinion of the committee, one of the most outstanding developments in timber trestle construction has been the preframing of treated piles and timbers to obtain the greatest possible service life from them. It pointed out that this practice is not only entirely feasible in most instances, but that it is also proving very economical, especially when proper machinery is

provided at the fabricating yards. The committee found extensive use of power-driven tools by the bridge and building forces on many roads, and expressed the opinion that on any fair-sized bridge job, these tools, such as wood boring machines and power saws, will more than earn their carrying charges.

The remainder of the report had to do largely with improvements which have been made in pile-driving equipment and cranes. Where a diversity of work is involved, including hoisting and excavating or material handling, as well as pile driving, the committee saw special advantages in the locomotive crane equipped with a set of demountable leads and a steam-driven pile hammer. It pointed out that this type machine has a further advantage over the "regular" type driver in that the leads can be inclined or tilted to drive batter piles in their proper positions, and can be lowered below the level of the trestle deck for driving piles with a low cut-off.

Discussion

After A. Chinn (Alton) had emphasized the desirability of utilizing power tools in the construction of timber trestles to the maximum possible extent, the discussion centered on the comparative value of pneumatic and electric tools for this type of work. In this, it was brought out that both types are satisfactory, but that consideration must be given to the availability of air compressors and to the fact that the electric tools must conform to the characteristics of the generator or other power supply. Electric outfits, it was brought out, are particularly desirable where night work must be carried on. The discussion then turned to the question of seasoning timber before treatment to avoid variable shrinkage which occurs when green timber is conditioned by steaming prior to treatment.

The desirability of preframing timbers for bridge construction was discussed at length and the conclusion was reached that this is of large importance, since framing in the field leaves the timber open to attack by decay-forming organisms in about the same measure as untreated material. Attention was also called to the fact that where Douglas fir stringers are used, they should be side-cut, for boxed pith almost invariably causes splitting from the end of the timber.

The Inspection and Preparation of Wood Surfaces for Painting

The preparation of wood surfaces prior to the application of paint probably receives less consideration in relation to its importance than any other individual detail in the maintenance of railway property, according to the report of the committee, of which T. D. Saunders, assistant division engineer, Canadian National, Toronto, Ont., was chairman. This is due, the committee said, to several causes, of which the most outstanding appears to be a general lack of knowledge of, or indifference to, the benefits accruing from the proper preparation of wood surfaces before the application of paint. In view of this situation, the committee presented detailed information as to how different classes or types of surfaces should be prepared for painting, dealing first with new wood surfaces and then with surfaces painted previously.

Stressing the importance of making a careful study of the type of surface to be painted before painting is started, the committee said that before any wood sur-

face is painted, a thorough inspection should be made by a competent person to determine the condition of the surface, the kind of wood, and the type of treatment that the surface should receive. In this connection, it pointed out that woods such as Southern yellow pine, ponderosa pine, Douglas fir, hemlock and spruce have wide bands of spring and summer wood, to which it is difficult to secure the adhesion of paint, necessitating the more careful selection of the priming coat. Also, it directed attention to the fact that certain woods contain soluble oil wood stains, and that unless such woods are treated properly prior to painting, the results will be unsatisfactory.

In view of the widely varying conditions which affect the securing of a first-class painting job, the committee recommended that the preliminary inspection of structures to be painted should be made by the supervisory officer who has complete charge of the work, and that this officer, where possible, should discuss at least the general outline of the procedure to be followed in each case with the paint foreman on the job.

Following its detailed discussion of the specific points to be given consideration when painting new wood and previously painted surfaces, the committee discussed at some length methods of removing old deteriorated paint, including sand-papering, scraping, the use of chemical paint removers, and burning. Each of these, it pointed out, are effective under certain conditions, but study should be made to ascertain which is the most effective and suitable for any specific conditions. In conclusion, the committee said:

"No matter how well applied or how good the quality and type of paint used, if the initial preparation of the surface to be painted is not carried out thoroughly, the job will be a failure. The intimate association of the act of preparing the surface with the actual painting operation itself is such that the effectiveness of both depends upon the thoroughness of each."

Discussion

Accepting the conclusions of the committee relative to the importance of preparing wood surfaces properly before painting, the discussion dealt largely with methods of removing deteriorated paint by burning, sand-papering, sandblasting, and the use of chemicals. This brought out the fact that aside from the usual type of hand gasoline torch, there are several special gas-burning torches available for removing paint, which, as used by various roads, permit faster and more economical work, with less possibility of damage to the underlying wood. Sandpapering was not recommended for cleaning, except where there was a raising of the grain of the wood, or for light finishing following the use of a burning torch and scraper.

Little experience was brought out with chemical methods of cleaning, although it was reported that one road had used them effectively on a brick structure. The sandblast was not recommended for cleaning brick, since it is too severe on the mortar joints, requiring excessive pointing. However, one instance was reported where a road had used a special adaptation of the sandblast effectively for removing the paint from the sides of refrigerator cars prior to repainting.

The Maintenance of Cinder Pits

Based on information secured from 25 roads in the United States and Canada, the committee reporting on this subject, of which C. A. J. Richards, master car-

penter on the Pennsylvania at Chicago, was chairman, discussed the three principal types of cinder pits being used by the railways—the depressed-track type for hand or crane loading, the water-pit type, and mechanical handling plants of the hopper and skip-hoist type. Broadening the scope of its subject, the committee gave detailed consideration to the construction and operation of these various types of pits, pointing out that many maintenance problems in connection with cinder pits are the direct or indirect result of faulty design or construction, or of improper operation.

Referring to water-type pits, the committee pointed out that they are usually built wide enough for two tracks, with a considerable opening between the tracks so that a clam-shell, operated by either an overhead electric crane or a locomotive crane, can be lowered between them to remove the cinders. Generally, it said, old rails are imbedded in the concrete in the bottom of the pit to afford protection against the clam-shell bucket striking the bottom continually. A few roads, it continued, either have in use or are considering the use of fire-brick to protect the beams or girders carrying the running rails from the heat of hot cinders lying against them.

Referring to the disadvantages of this type of pit, it said that the principal objection seems to be the danger of workmen or others walking into the open pit and drowning, although it pointed out that the use of railings at the ends of the pit as a protection against such accidents is quite general, and that a few roads place wood or metal gratings over the pit and the intertrack space, which can be removed readily to permit the removal of the cinders.

Concerning the skip-hoist type pit, which employs a track hopper and loads directly into cars or into storage bins from which the cinders are run by gravity into cars, the committee found that this type is being used at both large terminals and at smaller outlying points, replacing older layouts with depressed tracks. While the committee found quite general approval of this type of pit, it called attention to the fact that it requires the use of considerable water for wetting the cinders before they are loaded into cars, a requirement which may cause an objectionable accumulation of ice about the tracks in cold weather, unless provision is made for its removal.

One entire section of the report dealt with the maintenance of various types of pits and the precautionary measures which should be taken in the construction of the pits to minimize operating difficulties and maintenance costs. In another section, the committee presented data submitted by two roads concerning the cost per ton of handling cinders and of maintaining the different types of pits. In conclusion, it said that, on the basis of the recommendations which it had received, cinder pits at large terminals should be of either the water-type or the mechanical hoist-type.

Discussion

The discussion of this report centered largely around the types of cinder pits in service. Several members described relatively shallow pits designed along the lines of inspection pits, in which interlocking buckets are placed to hold the cinders when the ash pans are being cleaned. Pits of this type require little water for quenching the cinders, which are dumped into cinder cars by means of gantry cranes. In general, it was recommended that where water-quenching pits are in service, it is desirable to unload the cinder cars on storage piles as quickly as possible to avoid the freezing of the wet cinders in the cars.

Accidents in 1937

WASHINGTON, D. C.

RAILWAY accidents of all kinds in 1937 brought death to 5,350 persons and injuries to 36,692, according to Accident Bulletin No. 106, which has been issued by the Interstate Commerce Commission's Bureau of Statistics. The number of 1937 deaths was smaller by 48 than the 1936 total; and, although higher than that of any other year since 1930, last year's record on a train-mile basis was more favorable than that for any year since 1932. Meanwhile, the 1937 passenger fatality rate per million passenger-miles was a new low for the 18-year period from 1922 to 1937. On the train-mile basis the 1937 over-all injury record was the worst since 1930, although in this connection the Bulletin's introductory comments point out that "comparison with prior years as to injuries is affected by variations in reporting."

The Bulletin is in the usual form, being divided into three parts, presenting in turn: Introductory comments and charts; general summaries and tables and annual tables by railroads; and appendices with tables covering accidents over extended periods of years, extracts from the reporting rules and "other pertinent information."

The 310 persons killed in 1937's train accidents represented an increase of 11.91 per cent over 1936's 277 and is further compared with the 296 killed in such accidents in 1930, "although the number of train-miles was 164 million less in 1937." (Accidents resulting from the movement of trains, locomotives or cars are called "train" accidents if railway property is damaged in excess of \$150; accidents resulting in casualties to persons with a lesser amount of property damage are called "train-service" accidents.)

Train-service accidents in 1937 resulted in the death of 4,808 persons, "chiefly trespassers and persons at grade crossings." This was smaller than the 1936 total, "but larger than that for 1931 when more train-miles were run than in 1937." Nontrain accidents in 1937 brought death to 232 persons, an increase of eight over 1936.

Trespassers Involved in 49 Per Cent of Fatalities

A chart showing the relative importance of various classes of persons in the total 1937 railway fatalities indicates that trespassers constituted 49 per cent; persons at grade crossings, 35 per cent; and employees, 10 per cent. Of the injured, employees constituted 45 per cent; persons at grade crossings, 24 per cent; trespassers, 12 per cent; and passengers on trains, 12.5 per cent. Another chart illustrates the 1922-1937 trend in casualties from railway accidents of all kinds; it shows that this trend has been generally downward since 1923, and although there has been some upswing in recent years, the totals for the latter do not approach those of the 1922-29 period.

Discussing casualties to passengers, the introductory comments note that in accidents directly connected with train operation, 27 passengers were killed in 1937; but only three of these casualties occurred "in collisions, derailments, or other accidents involving serious damage to railway property." Of the 27 passengers killed, 18 were classed as passengers on trains and the remainder as travelers not on trains. In 1937, passengers to the number of 2,587 were reported as injured in accidents involving train operation. A table showing the distribution of casualties to passengers by kinds of accidents indicates that 29 per cent of last year's passenger fatalities

and 28 per cent of the injuries occurred in getting on or off cars.

The number of employees on duty killed in accidents of all kinds in 1937 totaled 666 while 23,629 were injured; and 87 of the latter were later reported to have died from their injuries. Per million man-hours, the 1937 employee fatality rate was "slightly lower" than in 1936 . . . but in each of the other years since 1930 the averages were "slightly lower" than in 1937. Seventeen per cent of the employees killed were struck or run over at places other than public crossings.

The Bulletin repeats its predecessor's plan of compiling specially-reported data on employee accidents in which the disability did not exceed three days. Disability exceeding three days has been the standard for accidents regularly reported. As was found with respect to 1936 so also in 1937 it developed that in none of the districts did the railway having the best record for "regular" employee casualties also have the best record with respect to "special" casualties—"although some of the best records appear near the top in both columns."

Suggests Auto-Stopping Gadget for Crossings

The 1937 grade-crossing accidents, as noted above, accounted for 35 per cent of all railway fatalities, 1,875 persons having been thus killed in 4,489 accidents last year. Automobiles were involved in nearly 90 per cent of the crossing accidents; and although more than one-half occurred at unprotected crossings, 124 were at crossings with closed gates, 424 at crossings with watchmen and 1,106 at crossings with audible or visible signals or both. In this connection the Bulletin goes on to note the need for "relatively inexpensive mechanical devices that will effectively stop heedless drivers." Further discussion of 1937 crossing accidents is based on the previous Bureau of Statistics analysis which was reviewed in the *Railway Age* of June 11, page 978.

The special analysis of train accidents which was started in the Bureau's 1936 Bulletin and continued in the present issue is found to show that "the cause for the interruption in 1934-1936 in the downward trend was the increase in accidents due to the condition of track or equipment, probably the result of decreased expenditures for maintenance in the years of low railway revenues."

Tabulation From Standpoint of Speed

An innovation in the 1937 Bulletin is the tabulation of accidents from the standpoint of speed, which was undertaken in view of safety questions raised by the installation of modern, fast, light-weight passenger trains. This table shows that the greatest number of accidents occurred at speeds under 10 m.p.h., but in the aggregate the greatest amount of property damage occurred at train speeds of 40 to 49 m.p.h. It is observed in this connection, however, that "the number of train-miles having no casualties may also have been greatest in this range." The Bulletin closes with brief comment on five accidents reported as having occurred at train speeds in excess of 80 m.p.h. Lightweight streamlined trains were involved in two of these accidents and trains drawn by electric locomotives in two others. Three of these accidents were at grade crossings and the only fatality was a driver of one of the motor vehicles involved. In the other streamliner accident—a derailment—two passengers were slightly injured; while the last of the five 80 m.p.h. accidents resulted when guide yoke broke off a locomotive. This train did not derail and no casualties resulted.

Traffic Clubs Meet at Cleveland

Belsterling says car spotting rule will divert a lot of traffic from railroads to trucks

SIX speakers representing the railroads, industry and the public expressed their views of the nation's transportation problem before the seventeenth annual convention of the Associated Traffic Clubs of America at Cleveland, Ohio, October 24-26. These included John J. Pelley, president of the Association of American Railroads, who spoke at a testimonial transportation luncheon given by the Cleveland Chamber of Commerce in honor of the officers and directors of the Associated Traffic Clubs; W. M. Jeffers, president of the Union Pacific; Thomas I. Parkinson, president of the Equitable Life Assurance Society of the United States; C. S. Belsterling, vice-president of the United States Steel Corporation; W. J. Cameron, of the Ford Motor Company; and C. Wayland Brooks, former Illinois congressman.

The program of the meeting also provided for the consideration of committee reports and a discussion of club activities. This year, prizes were awarded for the best articles submitted by traffic club publication editors on the subject, "What is the most valuable traffic club activity for the future?"

Officers elected for the ensuing year are as follows:

President, W. F. Schulten, vice-president of the Chicago District Electric Generating Co.; Executive vice-president, C. R. Musgrave, vice-president of the Phillips Petroleum Co.; secretary, F. A. Doebber, traffic manager of the Citizens Gas & Coke Utility, re-elected; treasurer, W. T. Vandenburg, of the Ninth Street Terminal Warehouse Co.; and regional vice-presidents, Dr. G. Lloyd Wilson, professor of transportation at the University of Pennsylvania; George C. Hichborn, general traffic manager of the United States Rubber Co.; W. C. Hull, vice-president of the Chesapeake & Ohio; U. E. McFarland, general traffic manager of the Owens-Illinois Glass Co.; M. M. Emmert, general traffic manager of the Coca-Cola Co.; M. M. Goodsil, general passenger agent of the Northern Pacific; L. W. Land, southwestern freight agent of the Baltimore & Ohio; L. P. Siddons, traffic manager of the Holly Sugar Co., and M. J. McCarthy, export manager of the Stanton & Berry Co.

Margin Too Thin

"Railroads are in trouble because the margin between what they take in and what they must pay out is too thin," said Mr. Pelley. "This is true," he continued, "not because of any inherent lack of efficiency in railroad operations for, measured by every index, there has been of late years a great increase in that direction. The increase in the hourly transportation output of the average freight train, for example, has gone up from 7,303 ton-miles in 1920 to 12,695 ton-miles in 1937.

"They are in trouble due to the long-time working of our public policies of transportation. Railroads are expected to be self-supporting, to meet all their own costs, and to pay taxes which do not go to the upkeep of railroad tracks, but for the support of the general services of local, state and national governments. Rail-

road costs, in many instances, are increased by the rigid regulations applied to the business. Railroad rates on some sorts of traffic are held down on the theory that railroads are a monopoly; while on other traffic, government-fostered and government-subsidized competition hammers down the rates. Railroad traffic volume is reduced and unit expenses are increased by the diversion to these agencies of tremendous tonnage which could be handled at a lower true cost on the rails.

"Some of the long-range remedial plans suggested contain good features, but none of them can be made effective soon enough to meet the immediate situation. The railroads are doing what they can to get revenues up and expenses down. That must be done and done now.

"In addition they are offering a long-range plan of legislation. It is not a one-point plan, because there is no one thing that will meet the situation. It contains 18 specific suggestions for changes in legislation or public policies of transportation which would be helpful. In brief they are: First, recognize railroads as a business, entitled to the same chance to make a living which other business has. Allow railroads to participate in prosperity when there is prosperity. Give them reasonable freedom to price their product to meet situations as they arise; to adjust their services to the demands of traffic; and to adjust their expenses to business conditions.

"Second, give railroads equality of treatment and opportunity with all other forms of transportation. Establish our public policies of transportation on that sound basis, and each form of transportation will do that part of the whole national job for which it is inherently best suited. Then we shall have the best of every form of transportation, at the lowest true economic cost for the country as a whole, and our railroads will continue as self-supporting, tax-paying, efficiently operated carriers of the major commerce of the continent."

Businessmen Must Take Part In Politics

Mr. Jeffers discussed the general business situation contending that it is necessary for businessmen to take an active but non-partisan part in politics, not by "arm-length conversation" among officers but by talking to the men at the bottom who are the balance of power in America. "While the business depression of the last eight or nine years," he continued, "has focused national attention on the railroads, it has at the same time revealed to railroad management some of the weaknesses and fallacies of transportation merchandising. Railroad management in the past, because of its failure to present the entire railroad problem and to include its accomplishments as well as its difficulties, has been placed in the position of parading its troubles before the world. It has made itself appear to be continually complaining of regulation, of taxes and of wages; to be violently opposed to the use of trucks and buses in any form and any place.

"Railroad management has perhaps been lax in two

particulars. First, that its greatest need has been, and still is, more traffic. Second, that its merchandising of transportation, which is the means or method of securing more traffic, needs revision.

"With an understandable zeal to protect revenues, it has been prone to say 'no' to any suggestion that might seem to encroach upon these revenues. Lower rates are not necessarily the solution to a shipper's difficulty. Faster service, later departures, earlier arrivals, modernized equipment, smoother handling may easily be factors of far more importance than a fractional reduction in rate. Railroad freight rates and charges are the one element, among all others in the cost of general distribution which, over a period of years, have not increased. Today the revenue per ton-mile is only a fraction of what it was 20 years ago.

"The problem of distribution concerns not only the producer, the shipper and the railroads but capital, labor, agriculture and government. It concerns government not in the sense of control but in the sense of a referee. The terms 'regulation' and 'control' are often confused. There is a proper need for some regulation but not for control. Control can only result in putting the government in business, the establishment of federal competition.

"I am concerned—and every railroad officer and businessman should be concerned—with getting more traffic on the rails. That is a problem in which the interests of producers, shippers, industry and railroads are identical. Only one thing, in the final analysis, will increase traffic permanently, and that is greater consumption, which in turn means greater production. You cannot ship more grain, or potatoes, or anything else, if you decrease production or choke consumption. Only by narrowing distribution unit costs through volume consumption is it possible to utilize increased production."

Prime Needs Are More Traffic and Freedom

Mr. Belsterling attacked the many prohibitions under which the railroads operate and recommended more freedom for management. He said in part:

"The prosperity of the railroads is essential to the common welfare. Our problem is,—how to increase the traffic density of the railroads in a manner fair and just to all. To state the proposition in another way, the prime needs of the railroads are more traffic and more freedom to manage their own affairs.

"All sorts of remedies have been proposed for the present economic ills of our rail carriers. Four different courses have been offered for the framing of new legislation (a) return to *laissez faire*; (b) continuation of the present system; (c) government ownership; and (d) public participation in the management, combined with an adjustment of the present regulation, consistent with that participation. But not one remedy was suggested to develop the traffic of the rail carriers, their primary and real need. On the contrary, there has been a clamoring and striving for more bureaucratic jurisdiction or power to restrict further the managerial discretion of the owners of these private properties.

"The prohibition against meeting the rates of competing carriers is a situation which exists in no other industry. How can any industry progress when it must sit idly by and thus see its trade destroyed?

"The prohibition against a rail carrier operating a vessel upon the navigable streams upon the Great Lakes, and the high seas, seems to me to be wholly unjustified in the present circumstances. No such prohibition applies to any of its competitors.

"Another unjustifiable prohibition in my view arises

from the power to suspend changes in general rate levels upon protest of shippers who are not required to make a *prima facie* case of unreasonableness or otherwise unlawfulness. The carriers have no redress whatsoever. If the Commission should later find the new rates, in whole or in part, were justified, the carriers in the interim will have suffered irreparable injury.

"Another prohibition of serious import is the recent torturing of the cryptic rule in the so-called General Electric case, originally decided in 1908, and interpreted later by the Commission itself in 1915 in Car Spotting Charges, to mean that 'the complainant was not entitled to an allowance for a service which the carrier was ready and willing to perform'—namely the placement of the car at the door of the warehouse. Incredible as it may seem, the Commission now holds that the carrier shall not place the car at the door of the warehouse when the carrier is prevented from performing an uninterrupted service. Yet the Commission had previously held that the shipper was entitled under the rates to this placement in industrial plants without regard to the size or complexity of the plant.

"Unless the Commission rescinds this last-named rule, industry has no alternative but to equip its loading and unloading facilities for motor truck service. An unfortunate aspect of this new rule is that it applies mostly to the largest users of rail transportation, who, in the ultimate analysis, will be required to give a large proportion of such traffic to the motor trucks. Therefore, another large portion of the traffic of our railroads will be destroyed.

Rates Should Be Effective Upon Statutory Notice

"I hold first, that the public would best be served if the rail carriers were permitted to own and operate boat lines and motor truck lines, either as extensions of their lines of railroads, or as complements thereto.

"I further hold, that when the rail carriers find it necessary to increase the general level of their rates to acquire revenues to pay their operating expenses, including fixed charges and taxes, such increases should be permitted to become effective upon statutory notice, without suspension. Any particular rate, or rates, would, of course, be subject to attack, as now provided for in the act, and if later found to be unjust and unreasonable, or otherwise unlawful, the complainant would be entitled to an award of reparation upon proof of damages. And, I hold finally, that because of the new forms of competition which the rail carriers are now required to meet; and that because of other situations, which were enacted, the carriers should be free to adjust and apportion their rates so as to meet the necessities of commerce, and generally to manage their important interests upon the same principles which are regarded as sound, and adopted in other trades and pursuits. However, their charges should not be unjust nor unreasonable and they should not unjustly discriminate so as to give undue preference or advantage to persons or traffic similarly circumstanced."

Government and Labor Blamed

Mr. Parkinson blamed government and labor for much of the difficulty confronting business, particularly the railroads. Although the railroads have their problems, he said, this picture is not so black that insurance companies have ceased to purchase their bonds. In 1938, Equitable purchased several millions of railroad bonds. Competition, government regulation, government subsidy of waterways, he continued, are only a part of the prob-

(Continued on page 635)

Preparing Cars for Commodity Loadings*

Car Department Officers' Association Committee report suggests desirable inspection and cleaning methods

THE subject of inspection and preparation of cars for commodity loadings immediately presents many complex questions when considered on the basis of requirements necessary to meet local and regional conditions which vary greatly throughout the entire country and obviously your committee cannot suggest inspection and preparation practices that would, if adopted, be the most economical and practical in all cases.

If it were possible to maintain cars of all classes in first-class mechanical condition at all times, we would still be confronted with the very aggravating problem of how best to remove odors, greases, oils and vermin from the interior of cars that are to be loaded with an ever-increasing number of commodities that require cars in good mechanical condition, clean and free from odors, if the commodity is to reach its destination in good condition. If the commodity does not arrive at destination in good condition, we have a dissatisfied shipper and stand a good chance of losing his business.

The average person would hardly continue to patronize a merchant who regularly delivered his groceries or other merchandise in dirty bags or containers covered with grease and oil spots. For the same reason, it follows that the retailer will not continue to patronize the wholesaler unless his products are delivered in good clean cars. It is, therefore, the duty and responsibility of the car department to clean and maintain the required number of cars in proper condition to meet service requirements, if the railroads are to hold the business they now have and attract additional business that is so badly needed.

The foregoing remarks merely emphasize the importance of intelligent and proper freight-car inspection and preparation of cars for commodity loading, in connection with which your committee suggests that frequent and thorough study and analysis of local and regional conditions and requirements by the operating, transportation and car department officers and foremen on their respective roads will show that certain practices now in effect are costly and unnecessary and will indicate corrective action that should be taken. For example, it is the general practice to wash and clean 100 box cars daily at certain terminals, only 75 of which are actually needed and used for commodities that require washed cars. In such cases the desired cooperation of the various departments involved would save the cost of cleaning 25 cars.

Ordinarily the transportation department on each road is able to furnish information as to the number of cars that will be required for on-line loading and for delivery to connecting lines well in advance of the time they are actually needed, and the car department, on advice from

the transportation department, should inspect, condition and card cars for the commodity ordered before they are set for loading or delivered to connecting lines.

There should be but little difference in the physical requirements of cars that are to be loaded with such products as news print paper, flour, sugar, bulk grain, cement, furniture, dressed lumber, etc., in any part of the country. Therefore, your committee believes that compliance with the following recommended practices will result in a substantial reduction in cost of operation by greatly reducing unnecessary empty-car movement and switching expense caused by the rejection of cars at loading or interchange points on account of not being suitable for loading the commodity for which ordered. Compliance with these recommendations will also eliminate conditions that cause many loss and damage claims.

Recommended Inspection and Conditioning Practices

Inspection for commodity loading and carding of cars should be done only at main terminals or points where repair forces and facilities are available for cleaning and making necessary repairs.

Only experienced carmen who are known to exercise good judgment should be assigned to work of inspecting for commodity loading. General observation of equipment is a lead to progressive inspection and quickly eliminates undesirable cars.

Inspection for commodity loading should be made during daylight hours. In clouded or shaded places a good light should be used.

In the absence of specific orders for cars required for any particular commodity, inspectors should apply cards on each side of cars showing the highest grade commodity for which each car is suitable.

After inspecting and carding cars for a high-grade commodity on-line loading, we recommend the application of "empty car" seals when cars are not to be set for loading on the same date as inspected. Empty car seals can be identified by the application of special strap checks or by painting seals with a special color. This is to prevent trespassers from entering and contaminating cars after inspection.

Minimum Requirements for Specific Commodity Loadings

News Print Paper—The cars must be weather-proof, as determined by interior inspection with doors closed; If daylight penetrates at any point, necessary repairs should be made or the car carded for a lower grade commodity. Interiors must be clean and free from protruding nails, bolts or other projections; floors must be level and smooth; ends must not be bulged and should have end lining; cars must be free from oil and grease and contaminating odors; cars satisfactory for

* This report presented at the September 27 meeting of the C. D. O. A. at Chicago, was read by Chairman F. G. Moody, master car builder, N. P. Other members of the committee were F. G. Swanson, general car dept. supvr., C. M. St. P. & P.; E. S. Smith, master car builder, Florida East Coast; P. J. Hogan, supvr. car inspection, N. Y. N. H. & H.; and W. A. Emerson, master car builder, E. J. & E.

this grade of paper are also O. K. for loading all other high-grade commodities.

Flour, Sugar and Other Food Products that do not Require Refrigeration—The same requirements are necessary, as for paper loading, except that cars having ends and floors slightly bulged but otherwise in good condition will be suitable for loading these commodities.

Furniture, Doors, Dressed Lumber, etc.—Cars must be weather-proof at sides, ends, roof and doorways; cars must be free of coal dust, cement, or other refuse, fresh oil and grease spots; protruding nails, bolts or other projections; floors must be reasonably smooth but not necessarily weather-proof.

Bulk Grain—Cars must have good tight sides, ends, roof and doors; floors must be tight and lining intact; side and end framing must be in good condition. On double-sheathed cars, careful inspection should be made to see that roofs, carlines and side sheathing are rigidly attached to side plates.

Merchandise and Similar Commodities—Cars must be weather-proof at sides, roof, ends and doorways; floors should be in good condition, free from fresh oil and grease, contaminating odors, protruding nails, bolts and other projections.

Rough Freight—Any car in good running condition and suitable for loading coal, cross ties, paint and oil in barrels or drums, brick, tile, rough lumber, and similar commodities.

Cars having defects of any kind which make them unsafe for movement in high-speed, heavy-tonnage trains should be marked bad order for necessary repairs, which should be made before carding for commodity loading.

Terminal inspection of all inbound cars should place them in line for some commodity loading, or in shop, as the case may be.

Cars when made empty at freight houses, elevator docks, team tracks or other points where unloaded, should be reinspected and recarded for the commodity they are suitable to handle.

Thorough Cleaning of Car Interiors

When necessary, in order to clean the interiors of cars thoroughly, they should be washed with clear water or blown out with compressed air. For washing, the minimum amount of water under pressure to clean properly should be used, thus avoiding unnecessary injury to floor and car framing.

For ordinary cleaning, cold water should be used.

For cars contaminated with decayed matter, oil, grease, etc., scrubbing with hot water, soda ash and lye is very effective.

The members of your committee have individually tried out a good many of the cleaners and deodorizers that are now on the market and recommended for removing all kinds of contamination and odors from box and refrigerator cars, but none of these has proven entirely satisfactory.

In many cases where penetration is not too deep, grease and oil spots, after scrubbing with hot water and soda ash, if painted over with any one of several so-called "floor-sealer" paints now on the market, will cause no further trouble.

In cases where oil or grease has penetrated the wood for a considerable depth, searing the surface with the flame of a torch, followed by scraping and a coat of "floor-sealer" is recommended for spots, but not in case the entire surface of the floor is badly contaminated, in which case we recommend renewing the floor, providing the car cannot be used to advantage for lower grade commodity loading until it requires general repairs.

How to remove effectively hide, fertilizer, fish and other objectionable odors from contaminated cars has been a live subject for several years and, as yet, has hardly progressed beyond the discussion stage, but with the increasing demand for a practical method, we expect that a satisfactory means for removing objectionable odors will soon be developed and made available. In the meantime, we do not know of any better method than thorough washing and scrubbing with a hot lye solution. Except in the most aggravated cases, a second or third such washing, allowing at least 24 hours for airing and drying between each washing, will accomplish the desired results.

On refrigerator cars that contain fish or other strong odors, it may in some cases, after washing as above, be necessary to shellac and varnish over the entire interior surfaces, including the floor racks.

In connection with the method of cleaning and deodorizing freight cars, we believe that your committee should be authorized by the association to make whatever tests appear desirable during next year and submit its findings and recommendations at the next annual meeting.

Consideration has been given to the question of developing and adopting a standard commodity card. Your committee does not believe a standard card is practicable for general use due to the wide variation in requirements as between different roads and different sections of the country. If adopted, it would increase instead of decrease the cost of operation.

Discussion

Regarding the suggestion that car inspection for commodity loading be strictly limited to *experienced* car men the question was raised if this would preclude the present practice of permitting agents from checking the condition of cars, and the consensus was that this should be permitted but confined to local inspection for local loads at points where experienced car men are not available.

One member said that on the Northern Pacific, cars are re-inspected for commodity carding at 30-day intervals but on some roads two weeks might be a more desirable interval. He testified that empty car seals have been used with good results on the N. P. and gave some protection against trespassers.

A representative of the North Western said that in his experience, cars with smooth inside lining and floors which have carried not over one or two loads of hides can sometimes be restored to higher class loading by the use of a cleaner. He maintained that in such cases not only the odor but the salt must be removed as well.

Another member said that the only solution of this problem is to assign hide cars exclusively to hide service, since cars used for any length of time loaded with this commodity cannot be satisfactorily reclaimed or reconditioned without rebuilding. This practice will increase empty car miles but will save money in the long run.

PURCHASE OF THE TRANSANDINE RAILWAY has been authorized by the Argentine Chamber of Deputies. The bill provides that the State railways shall undertake to construct immediately that part of the line which was destroyed in the latter part of 1932, and approves an agreement of June 8, 1937, in which the government and the private railway management assented to a purchase price of £750,000 (\$3,652,500), payable 10 per cent in cash and 90 per cent in guaranteed bonds bearing 4 per cent interest. The cost of reconstruction of the line is approved up to 5,614,489 pesos (\$1,796,637) which will be covered by the issuance of credit bonds. The bill further calls for the re-employment of the former personnel of the private road on a seniority basis.

Fire Association Meets at Chicago

THE Railway Fire Protection Association celebrated its silver jubilee at its annual meeting held in Chicago on October 18-19. The organization was founded in 1913 for the purpose of conserving the resources of the railways of the United States and Canada through the prevention of fire waste. As a result of its efforts during the last 25 years, fire losses on the railroads have been cut more than one half, insurance rates have been reduced and the total yearly insurance premiums paid by the railroads have dropped about 75 per cent.

Coincident with the completion of 25 years service to the railroads the Railway Fire Protection Association, upon the suggestion of the Association of American Railroads, has asked the latter Association to take over the Railway Fire Protection Association as part of the operations and maintenance department. Under the proposed plan of merger, the Railway Fire Protection section will report direct to the vice-president of operations and maintenance and will be under the direction of an executive committee selected by the Fire Protection Association. The object, as in the past, will be to promote interest in and improve the methods of fire protection and prevention; to obtain and circulate information on these subjects and secure the cooperation of its members in establishing proper safeguards against loss of property and life by fire, and especially to standardize practices through the interchange of ideas and experiences with regard to such matters in connection with railway properties. In addition, the new section will act as a clearing house for all fire prevention activities in which other sections and associations engage.

Fewer Fires Last Year

In 1937 there were 4,932 fires on the railroads of the United States, as compared with 5,998 fires in 1936. The total loss amounted to \$3,750,707. This included 4,312 fires, the loss from which was less than \$5,000; 78 fires in which the loss ranged from \$5,000 to \$50,000; 6 fires in which the loss ranged from \$50,000 to \$100,000, and 5 fires in which the loss ranged from \$100,000 to \$250,000.

Wrecks caused 66 fires last year, with a loss of \$658,209; smoking and matches caused 323 fires, with a loss of \$390,282; trespassers caused 503 fires, with a loss of \$369,534, and sparks or hot coals from locomotives caused 323 fires, with a loss of \$101,284. Of the properties, box cars suffered the most, with 1,033 fires and a loss of \$604,547. Wharf property was second with 39 fires, and a loss of \$484,978. Car shops had 23 fires, with a loss of \$343,818.

One of the interesting parts of the program was a roundtable discussion of various factors and causes of fires. A discussion of the fueling and repair of Diesel locomotives showed that while oil tanks are equipped with fire prevention devices and proper facilities are used in terminals, many make-shift devices for refueling outside of terminals are serious fire hazards. The discussion also dwelt with crank case explosions. Portable fuel oil furnaces, it developed, have undergone changes designed to eliminate fire hazards and as a result at the present time most fuel oil furnaces are of the vacuum type rather than the pressure type.

The importance of "no smoking" rules was given considerable attention, several members favoring a strict

enforcement of the rules while others took the position that the practice can not be stopped and that the rules should be modified to encourage safe smoking. One railroad reported that when it provided proper receptacles for the disposition of burning stubs, fires due to smoking were eliminated. Another road, which had failed to stop smoking among employees, provided smoking territories for them with a resulting decrease in fires. While smoking in the bodies of passenger cars is becoming more prevalent, it was felt that by providing smoking rooms and asking smokers to give consideration to non-smokers, smoking in car bodies could be controlled without irritating passengers. Discussion of fires in baled cotton revealed the development of a new fire fighting solution which will penetrate the bale and not damage the cotton, as does kerosene which is used extensively for smothering fires in baled cotton.

The introduction of air conditioning and glass block construction, according to the discussion, has resulted in new fire hazards. A talk by E. W. Fowler, of the National Board of Fire Underwriters, revealed the necessity for the proper construction and use of materials in air-conditioning ducts to prevent the spread of fires throughout buildings. He also emphasized the necessity for removing dust from cleaners and ducts. The use of glass blocks in such a way as to eliminate openings normally used by firemen when fire prevents the use of doors was considered an important problem in that special devices must be used by firemen to gain entrance to the buildings. It was recommended that where glass block construction eliminates openings, some of the glass blocks be included in a frame which can be removed by firemen and the opening used as an entrance.

W. S. Topping, chief inspector of the Bureau of Explosives, spoke on fire hazards to dangerous explosives, toy torpedos, nitric-acid, charcoal, gasoline, matches, lime and carbon bisulphide. George T. Bunker, assistant secretary of the Underwriters Laboratories, described the activities of these laboratories. J. A. Neale, of the Underwriters Laboratories, discussed the protection of openings in walls and partitions, showing the advantages and weaknesses of various types of fire doors. J. I. Banash, of the International Acetylene Association, in a talk on the fire prevention plans of the oxy-acetylene industry, told how the industry is endeavoring to carry fire prevention practices directly to the workmen, with the foreman as the important agent. Victor H. Tousley, of the National Fire Protection Association, discussed the need for frequent electrical inspections emphasizing the importance of adherence to approved practices in the installation of electrical equipment.

Traffic Clubs Meet at Cleveland

(Continued from page 632)

lem. If railroad management were permitted to deal with these as it sees fit they could protect the interests of the railroads. Another factor which he said contributed to the railroad problem is general business conditions which are unfavorable because of a lack of confidence resulting from an unstable government.

As an example of the situation confronting the railroads he cited the New York Central saying that after taxes, depreciation, wages, etc., only \$8,000,000 were left of its \$383,000,000 revenues in 1936 for other expenses and nothing was left for its 55,000 stockholders. Its 96,000 employees received \$175,000,000 in wages while in addition they received \$8,500 per employee in the form of tools with which they earned their wages.

ICC Examiner Would Wipe Out MOP Stocks

(Continued from page 623)

14.8 per cent in second preferred; 10.7 per cent in no par common and in addition would receive \$453,600 of Rock Island, Arkansas & Louisiana-Little Rock & Hot Springs Western 4 per cent notes to be deposited with the mortgage trustee.

The New Orleans, Texas & Mexico first mortgage 4½s and 5½s would receive 41.2 per cent in first mortgage series B 4s; 11.3 per cent in general mortgage series A 4s; 11.3 per cent in general mortgage series B 4½s; 18.6 per cent in prior preferred; 16.7 per cent in common stock and 0.9 per cent in cash. The income 5s of 1935 would get 47 per cent in first mortgage 4s; 12.9 per cent in general mortgage series A 4s; 12.9 per cent in general mortgage series B 4½s; 21.3 per cent in prior preferred; 5.6 per cent in common stock and 0.3 per cent in cash.

The International Great Northern first 5s and 6s would be exchanged for 32.3 per cent of first 4s, 22.1 per cent of general 4½s; 11.5 per cent of prior preferred; 14.9 per cent of second preferred and 19.2 per cent in common. The adjusted mortgage 6s would receive 34.8 per cent in common stock.

The examiners plan does not include in the reorganized company the terminal properties in Kansas City and St. Joseph, Mo.

Communications . . .

Is 65 Years Too Old?

TO THE EDITOR:

PHILADELPHIA, PA.

A few years ago I read something very interesting in *Railway Age*—that it cost \$1,785 to promote the average inexperienced engineman on class I railroads. A fireman once told me that our assistant road foreman put that figure at \$5,000. No doubt these figures were made from actual happenings, such as wrecks, pulled draw heads, rough handling of trains, etc. If a national law were passed to pension locomotive enginemen at 65 years of age (some want it at 60), there would be an additional continuous cost of operation.

Measured by the standard of justice as we were taught when our mothers sent us to Sunday school, before Congress should pass this law they should pay the railroads that additional cost, or it would be a form of unseen tax and the railroads would have to pay. Not only would the \$1,785 be used up more often, but the quality of service would suffer in proportion to the engineman's experience in the class of service he was entering. A new man cannot be expected to get the best results. This is important even from a religious angle because some of this loss is loss of lives.

Government Should Pay When It Destroys Earning Power

If a man owns a café where alcoholic drinks are sold, and employs say four waiters, and the law puts him out of business by prohibition legislation, he should be paid the value of his business, and the waiters their wages until such time as they are able to find employment at the same or better wages. If this were not done before his doors were closed, it would be a poor example of the definition of justice in the dictionary. Yet this was done and Congress would not hesitate to do this to the railroads.

If this bill were put to a vote of all enginemen and each had to pay his share of its added cost before he were permitted to vote in its favor, it would never become a law. A man's age expressed in years does not tell his mental or physical ability

at any time in his life. A doctor comes closer when he examines him. As to an engineman's ability to operate a locomotive, we do know that some enginemen do a better day's work at 65 or 70 than some other ones do the best day they ever lived. We can easily see this by riding their trains.

Assuming the public should have the best possible service, we should best judge an engineman's pension age by the quality of job he is doing. Who needs his full pension most, and who should get it, the engineman who goes down and out after thirty years of service with bad eyes, heart, nerves, etc., or the engineman who is doing good work regardless of age? In the interest of the railroads, the enginemen and the public, there is only one answer. If this law could be arranged so an engineman could get his full pension at an earlier age on his personal request it would be improved, but in its proposed form, the only real benefit it seems to have, is that of relieving the country of unemployment and this seems to be the principal lever used in its favor.

That the country should be relieved of unemployment we seem to pretty much agree. No doubt when we were emerging from our ancestral animal forms we needed little government and had less. As we advanced the functions of government became more numerous and complex to take care of the ills that came along with civilization. These ills seemed to come first. The lawmakers never seemed to see them coming. Is our government at the present time as much behind as there are citizens looking for a job? The wealth and condition of a country should be somewhere in proportion to the average production of its citizens.

Production Increasing Faster Than Wants?

Man's wants do become more numerous, but they can't keep up with his ability to do more work with less help in less time—mass production. Most of us seem to think this is the principal cause of unemployment, but we must also agree that it has helped build the country up to what it is today. That the causes of unemployment will grow, and become more and more a problem for the federal government to solve seems only too well assured. At the present time, with all the W. P. A. workers under pay, it might be well for Congress to experiment with an agricultural community under such complete government supervision that they would balance their budgets and be no expense to the government.

Private enterprise has made the wealth of this country. It must stand or fall on its ability to pay its debts and interest. To saddle the unemployment problem on it, in the form of ever-increasing taxes, will not only increase its burdens, but will be the source of a growing discontent. We should bring Congress to that quality of justice that, if they pass this pension bill, they agree to pay the railroads for the increased cost of operation, which will follow—and also reimburse every employee involved for his decreased earning capacity. The chief duty of government should be to look after and help its citizens and their enterprises, and not hinder them.

W. S. STILES,
Engineman, Pennsylvania R. R.

Says Roads Should Expose Train Service Working Rules

TO THE EDITOR:

In the testimony which I have read, the railroads have not even mentioned, much less attacked, individual rates or earnings of any group of employees—why, I cannot understand.

To ask for a 15 per cent reduction all 'round was merely to stir up opposition of the public. If, on the other hand, they had shown the ridiculous rules, resulting in the even more ridiculous payments to train and engine men, there would have been a storm of protest in favor of the roads.

ANONYMOUS.

[NOTE—The *Railway Age* does not ordinarily publish anonymous communications, but we make an exception in this case because the views of this writer parallel those of a number of communications we have received. For purposes of the records it may be well to get into print evidence of the existence of opinion such as that which this writer holds.—EDITOR.]

NEWS

Mere Listening Not Education

N. & W. employees urge wide participation by service meeting attenders

Speeches and committee reports delivered at the 19th annual Better Service Conference of the Norfolk & Western, held at Roanoke, Va., on October 7 and 8, and attended by 350 employees from all parts of the system, have recently been made public in a special issue of the "Norfolk & Western Magazine." Chief speakers at the conference were: George Dunglinson, Jr., recently elected vice-president in charge of traffic of the N. & W.; Dr. Gus W. Dyer, professor of economics, Vanderbilt University, and Joe Marshall, special representative, freight claim division, Association of American Railroads, Chicago. J. B. Baskerville, general claim agent of the road, was chairman of the conference.

Mr. Dunglinson devoted the greater part of his talk to pointing out that the railroad must not rest on its laurels—its "century of service,"—but must continue to seek new operating techniques, find new traffic possibilities. Regarding new fields for traffic in service, Mr. Dunglinson said: "The period of territorial expansion of the Norfolk & Western is practically at an end. There are no more frontiers to conquer. There are virtually no more virgin areas into which we can extend our rails for the creation of new industry and increased traffic and new supporting revenue. The future growth of the railroad is limited to the slower normal development of the present areas it serves and to the development of overhead traffic from connecting lines. The activity of the railroad—its prosperity or lack of prosperity—is influenced more than ever before by the state of the nation's prosperity and by the rules and regulations prescribed by others for our business conduct."

Dr. Dyer spoke on the relationship between government and business and urged continued independence of the latter. Mr. Marshall, who declared that he would deal with "odds and ends of claim prevention," presented several study charts in support of his thesis that damage and loss claims do not necessarily coincide with the rise and fall of traffic and revenue, but tend to remain high even during periods of falling activity indices. He also made special reference to the handling of cars and com-

mented on various types of draft gear and car tonnages.

In that part of the session devoted to committee reports, Mr. Baskerville pointed out that the number of these had been increased from 15 last year to 21. Highlights selected from the 21 reports follow:

New and Old Business—"We find a number of employees not connected with the traffic department are lacking in information as to our schedules, routes and facilities. Suggestion is made that in such cases the agent or a member of the traffic department be contacted."

"It has been suggested that items appearing in Railroad Data and other publications, calculated to create a public interest in our railroad problems, be submitted to the different weekly newspapers now being published in many of our towns and counties, as a basis of editorial comment by the publishers."

Know Attitude of Public Officials—"In the matter of determining the attitude of public officials, we have reference not only to national and state legislators, but to local and county officials as well, because our railroad is a vital part of, and as a heavy taxpayer is interested in, each community it serves. We employees, as good citizens, owe it to our railroad to foster its welfare through these officials who, by being properly informed will feel closer to, and more interested in our problems and the value and importance of the railroad to industry and commerce, and as a vital economic factor in the life of our community and the nation."

Meeting Programs—"Employees will not acquire a sound knowledge of their industry by listening to occasional speeches, however informative they may be, because genuine education requires some effort on the part of the person who is being educated. Hence, the greatest number of employees possible should participate in each meeting."

Dissemination of Information—"Better Service Clubs [should] hold their meetings from time to time at local stations on the line that do not have clubs. In this way some people who are unable to attend the regular clubs will be able to learn the facts and problems of the railway."

Club Meetings

The Northwest Car Men's Association will hold its next meeting on November 7 at 8 p. m., in the club room, 1957 University avenue, St. Paul, Minn. H. F. Ripken, wheel shop foreman, Minneapolis, St. Paul & Sault Ste. Marie, Minneapolis, Minn., will present a paper entitled "Some Wheel Shop Observations."

Transport Clinic To Be Continued

Agenda announced for second meeting of U. S. C. of C. rail conference

Continuing its work of formulating a "practical program to rehabilitate the railroads," the advisory committee of the Transportation Conference called on September 13 by the Chamber of Commerce of the United States, and reviewed in the *Railway Age* for September 17, page 413 and September 24, page 455, announced on October 22 the agenda for its second meeting to be held on November 21 and 22. At its meeting on October 22 the advisory committee had before it a large number of proposals for improving the railroad situation out of which it selected five major topics for consideration at the November meeting of the Conference. The main subjects are: Rate Provisions, Coordinating Consolidations and Abandonments, Relief from Hampering Burdens and Restrictions, Government Financial Aid, and Financial Reorganization of Railroads.

In making the announcement of the time of meeting and the agenda, the advisory committee pointed out that it had clearly in mind the necessity of limiting the list of subjects to those upon which the widely diversified interests represented in the Conference could unite and upon which there could be reasonable expectation of early legislative action.

The immediate objective of the conference, in the opinion of Arthur M. Hill, of Charleston, W. Va., chairman of the committee, is to restore railroad prosperity and credit so as to insure continued and improved service under private ownership and operation in the public interest and for the national defense.

The detailed agenda which will be submitted to the Conference follows:

RATE PROVISIONS

1. Should a rule of rate-making be adopted similar to that in 1920 Act requiring the Interstate Commerce Commission to permit as nearly as may be fair return on the value of the property; or should there be other changes in the rule?

2. Should the Interstate Commerce Commission be empowered, in any proceeding of a general character, whether involving all rates or rates on a particular commodity, to make findings as to what should be

(Continued on page 644)

I. C. C. Set-up Good Enough for Meyer

Senior member gets off comment on current agitations and criticisms

Balthasar H. Meyer, senior member of the Interstate Commerce Commission, this week got off a few observations on current agitations in connection with the commission's organization, its place in the federal government set-up and its role in the national transportation picture. He spoke on the evening of October 25 at the presentation to the commission of a bronze bust of Judge Thomas McIntyre Cooley, its first chairman, and a bronze tablet in memory of Edward A. Mosely, its first secretary, by the Association of Practitioners before the Interstate Commerce Commission.

Other speakers at the ceremonies, which were held in one of the commission's large hearing rooms, were: Clarence A. Miller, general counsel of the American Short Line Railroad Association, and president of the practitioners' association; and W. P. Bartel, secretary of the commission. Elmer A. Smith, general attorney of the Illinois Central and past president of the practitioners' association, presided. Approximately 65 persons attended including some 20 ladies; all 11 members of the commission were on the bench.

Assigned by unanimous decision of his 10 colleagues to be the commission's spokesman for the occasion, Commissioner Meyer nevertheless emphasized the fact that his associates could not be held responsible for anything he might say, except "the thank you." His address was entitled "Judge Cooley and the Interstate Commerce Commission;" but Mr. Meyer found the subject broad enough to ring in his ideas in connection with the suggestion that the commission "submit the recommendations which it intends to make to Congress in its annual reports to some other branch of the government prior to transmission to Congress;" and in connection with criticisms of the commission "for not exercising a roving commission to tell Congress and the people of this country what we think should be the national policy regarding everything relative to transportation." In the former connection it was recalled how the commission late in 1937 notified President Roosevelt that it could not comply with an order issued by him calling upon government agencies to transmit to the Bureau of the Budget, when possible, recommendations for legislation in advance of the sending of such recommendations to Congress. Noting the commission's action in the foregoing connection Mr. Meyer went on to say that "thus far our recommendations have represented the same independent expression of judgment and opinion which have characterized them since Judge Cooley's time." He added: "We recognize no directing authority except that of Congress."

In connection with the commission's role in the general transportation picture, Mr.

Wage Board Gets 2-Days Extension of Time

President Roosevelt this week approved a 48-hour extension of time beyond the October 27 deadline for the filing of the Emergency Board's report on the 15 per cent railway wage cut controversy, it was announced at the White House on October 26. On that basis the three-man board, consisting of Chief Justice Walter P. Stacy of the North Carolina Supreme Court (chairman), H. A. Millis, retired chairman of the University of Chicago's department of economics, and James M. Landis, dean of Harvard Law School, had until midnight Saturday, October 29, to submit its findings to the President.

The 48-hour extension, it was revealed, came after representatives of railway management and labor had agreed not to dispute the delay. In this connection it was indicated at the White House that the Railway Labor Act's provision calling for a report within 30 days from the date of an Emergency Board's appointment was not regarded as mandatory in the face of an extension agreed-to by interested parties.

Meyer noted how the regulatory body has "refrained from going beyond our field as defined by Congress to give expression to policies in other fields which in our view Congress might adopt." Any idea that the commission's duties extend to such matters, he went on, "is fundamentally wrong . . . It would be most unwise and unsound for us to enter upon a discussion of those questions in the absence of a prior Congressional mandate. In the language of Judge Cooley . . . 'It is not the province of the commission to express opinions generally. . . .'"

Also, Commissioner Meyer sees no necessity for substantial changes in the commission's organization anywhere at the present time. He believes in that connection that the commission is now "organized to do the work Congress has given us to do;" and that "we are doing it efficiently and economically." He added that there is no necessity for speculating on what changes may be desirable in the future "until Congress shall have once more imposed new duties upon us."

"Academic theorists and administrative theorists," he continued, "have suggested various types of organization for this commission, the chief purpose of which appears to be to impose upon it the principle of censorship, and which received practical demonstration in events connected with legislative recommendation numbered 5 in our 50th Annual Report, and that numbered 8 in our 51st Annual Report to Congress." The latter were evidently references to New Deal reactions to the commission's recommendation that Congress "further consider the situation of steam railroads under the Revenue Act of 1936."

At another point Commissioner Meyer

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Public Relations at C. & O. Meeting

Diverse aspects of relations program discussed at two-day meeting

Some 15 speakers from railroad and business circles presented ideas for a broadened railroad public relations program during the two-day sessions of the eighth annual conference of the Chesapeake & Ohio's Public Relations department, held at the Greenbrier Hotel, White Sulphur Springs, W. Va., October 21 and 22, H. P. Henshaw, assistant vice-president, presiding. The first session was opened by an invocation by L. G. Bently, general safety agent of the road, and a welcome by Governor Holt of West Virginia. President George D. Brook, in the initial address, expressed the thought that while the theme of the talks and discussions to follow would be similar to those presented at the previous conferences, nevertheless re-expression of the ideas would be advantageous; that "preparation for any continuing effort is necessarily recurring preparation." Developing his talk generally around the idea that good public relations is the courting of friendly public opinion, the C. & O. president urged more intensive education of the public in matters affecting the carriers, declaring that "if the American public is well informed; if it has a knowledge of all the factors bearing upon each of the two sides of an issue, a decision of that issue, as influenced by public opinion, is usually the fair and proper one." Further on he stated: "The term 'public relations' as applied to our railway denotes nothing more or less than our standing in the community."

Speaking on "The Public's Stake in the Railroads," Merle Thorpe, editor and publisher of "Nation's Business," after emphasizing the importance of the railroads in our economy, went rather deeply into the subject of government regulation of and interference with managerial discretion.

"Railway Developments in Canada" was the topic discussed by Frederick Bramley, secretary, Canadian Pacific. After surveying the current transportation situation in the Dominion, the speaker summarized the public relations activities of his road. In this connection, he emphasized especially the importance of fitting employees for the task of dealing with the traveling and shipping public, pointing out that, at regular intervals, C. P. R. division and district officers call together groups of officers and employees in their respective territories representing all departments and grades of service, for discussions of matters affecting the system nationally or locally. Furthermore, 60,000 copies of the company's Staff Bulletin, each issue of which contains an article of educational value, are distributed monthly, and sets of ten books on railway and ancillary operations, history, economics, etc., known as the "Foundation Library" are made

(Continued on page 643)

Train Accidents Down 41 Per Cent

Figure for first six months is a marked decrease under same period of 1937

The number of train accidents on railroads of the United States in the first six months of 1938 was 41 per cent less than in the corresponding period in 1937, according to reports made public by the Bureau of Railway Economics of the Association of American Railroads. Taking casualties for all classes of persons—passengers, employees, persons at highway railroad grade crossings and trespassers—the number of fatalities in the first half of 1938, compared with the same period in the preceding year, was reduced by 440 or 17.6 per cent, and the number of non-fatal injuries was reduced by 5,211 or 28.6 per cent. The A. A. R. statement calls this "the best general safety record ever established by the railroads for any similar period."

Fatalities to employees on duty resulting from all kinds of accidents in the first six months of 1938 totaled 234, compared with 354 in the first half of 1937, or a reduction of 33.9 per cent. Based on the number of man-hours worked, comparisons show a reduction of 17.4 per cent in the frequency of fatalities to employees in the six months' period this year compared with the same period last year. Non-fatal injuries to employees in the first half of 1938 compared with the same period last year, declined 37 per cent in number and 21.2 per cent in frequency on the basis of man-hours worked.

Passenger fatalities resulting from train accidents totaled 44 in the first six months this year, compared with none in the same period last year. These fatalities, it is pointed out "resulted from only two accidents, both of which were from causes over which the railroads had no control." Non-fatal injuries to passengers resulting from train accidents totaled 240 in the first half of 1938 compared with 246 in the same period last year.

A reduction in the number of fatalities and injuries resulting from accidents at highway railroad grade crossings also took place in the first six months this year compared with the same months last year. Such fatalities in the six-months' period of 1938 totaled 696 compared with 858 in the same period last year. At the same time there was a reduction of 534 in the number of persons injured. This means that there was a reduction of 20.8 per cent in the number of casualties resulting from grade crossing accidents.

Casualties to trespassers on railroad property declined from 1,193 fatalities and 1,222 non-fatal injuries in the first half of 1937 to 1,027 fatalities and 1,149 non-fatal injuries in the same period this year, or a decrease of 9.9 per cent. This represents, however, an increase in the frequency rate of casualties to trespassers since total train movements were reduced by a greater per cent than the casualties.

U. P. Qualifies as Self-Insurer Under Motor Carrier Act

Interstate Commerce Commission, Division 5, has approved the application of the Union Pacific for authority to qualify as a self-insurer under section 215 of the Motor Carrier Act.

R. R. "Supporters" to Discuss Advertising

Newspaper advertising will be the topic of the next meeting of the New York Committee on Railroad Support, to be held on November 4, in Room 1013, 466 Lexington avenue, New York. The discussion will center, primarily, upon the merits of newspapers for institutional advertising by railroads, of a nature similar to that recently used by the Atlantic & Pacific Tea Company, to state its economic case to the public.

Cost Comparison Case Reopened

The Interstate Commerce Commission has reopened for further hearing the case involving rates on naval stores from Mississippi points to Gulf ports insofar as it relates to carload and truckload rates on the commodities involved from Columbia, Miss., to Gulfport, and from Columbia to New Orleans, La. As pointed out in the *Railway Age* of August 27, where Examiner Charles M. Bardwell's proposed report was reviewed, the record in this case included data on the comparative costs of rail and truck transportation.

Roads Lop Off Day on Florida-North Perishable Runs

Perishable shipments from all points in Florida located on the Seaboard Air Line, the Atlantic Coast Line and the Florida East Coast will be afforded third morning delivery in New York, Philadelphia, Pa., and Baltimore, Md., and fourth morning delivery in Boston, Mass., effective November 14, according to schedules arranged by the three roads and their connections. By the new service, fruits and vegetables will reach these northern destinations approximately 24 hours earlier than at present.

Correction—Nickel Plate Interest

In announcing operation of the note extension plan of the New York, Chicago & St. Louis in the financial columns of the *Railway Age* of October 8, page 538, it was erroneously stated that the road had announced deferment of interest payments due October 1 on its refunding mortgage 5½ per cent series A bonds and its three-year 6 per cent notes. Actually, immediately after announcing on October 4 that its note extension plan was operative, the Nickel Plate took steps to pay the interest on its refunding mortgage bonds, series C and series A, due September 1 and October 1, respectively, which had previously been deferred, and announced payment of interest for October 1 on the 6 per cent notes which had been deposited under the plan. A telegram to this effect was sent on October 5 to the New York Stock Exchange by R. G. Eberly, treasurer of the road.

R. R. Deny I. C. C. Recapture Power

Carriers take position that pooling cannot be forced upon them without law

The 11 members of the Interstate Commerce Commission were told on October 24 that they did not have the authority to force the railroads of the country to enter into a pooling plan. This statement was made by J. M. Souby, assistant general counsel for the Association of American Railroads, at the opening of oral argument in the Ex Parte 115 coal rate increase case in which the coal-carrying roads are asking the commission to make permanent the increases granted in that case on bituminous coal. In the Ex Parte 115 decision the commission permitted the carriers to increase their rates on bituminous coal by approximately 10 cents a ton, but stipulated that the increase was to be limited to December 31, 1938, for all districts except the Mountain-Pacific. It also suggested that the carriers work out a plan to pool the revenues of the Pocahontas lines.

Mr. Souby began his argument by saying that the commission, in the Ex Parte 115 decision, had invited the railroads to bring in a pooling plan, but that the carriers had failed to agree on a plan whereby the increases on bituminous coal accruing to the Pocahontas lines would be distributed to those roads which were in need of increased revenues.

Entering upon a legal discussion of the right of the commission to force recapture, Commissioner Eastman asked Mr. Souby whether or not he would question the right of the commission to force a pooling plan at this time. Mr. Souby was quick to reply that he would challenge the commission's power to take any such action in the absence of a congressional mandate to that effect. "When Congress repealed the recapture provision, it did not substitute anything in its place," said the railroad counsel. Mr. Souby was of the opinion that the commission would be going beyond its prerogative if it tried to force any form of recapture. Furthermore, he believed that recapture was a legislative matter and not an administrative matter. He warned the commission that it should not try to substitute a pooling plan until Congress has seen fit to authorize one.

Continuing his opening statement, Mr. Souby asserted that the railroads could not find any way to distribute the profits of the Pocahontas lines to the other needy carriers. He then went on to explain that conferences had been held between the Pocahontas lines and the eastern carriers in an attempt to work out some pooling agreement, but that these conversations were premised on the proposition that the commission would grant the increases asked for in both Ex Parte 115 and 123. When the commission failed to do this, he said, the conversations passed into history.

Coming down to the present, Mr. Souby contended that the Pocahontas lines were

not, at this time, in any position to consent to a pooling of their earnings from the bituminous coal rate increase. He then went on to cite some figures showing that whereas the Pocahontas lines earned 6.61 per cent on their property investment in 1937, they have earned only 3.5 per cent for the first eight months of this year. For the first seven months of this year they earned at the rate of 4.79 per cent as compared with 7.25 per cent for the same period in 1937. These figures showed, Mr. Souby said, that the Pocahontas lines could not be accused of earning excessive profits from the increased bituminous rates.

Turning to the subject of prices and the position of the coal operators, Mr. Souby told the commission that he doesn't think that the operators are worried about the price of coal. What they are concerned about, in his opinion, is a uniform price, and he cited the acquiescence of the operators to the prices set last year by the National Bituminous Coal Commission. He also said that the reason the coal operators object to the increased rates is that they do not share in them. Mr. Souby concluded his argument by telling the commission that his opponents were using "predictions" while the railroads were dealing with facts.

Guernsey Orcutt, general attorney for the Pennsylvania, spoke briefly in defense of the railroads' position, pointing out that the eastern lines, which will get about 50 per cent of the increases if the rates are made permanent, are badly in need of the increased revenues. At this point Commissioner Porter said, "You eastern lines are going to get back \$30,000,000 from increased passenger fares, aren't you?" "We certainly hope that will be the case," answered Mr. Orcutt.

After the Pennsylvania attorney had discussed the diversion from coal to other forms of fuel, Commissioner Eastman asked him, "Mr. Orcutt, do you deny that other forms of power have made serious inroads on coal?" "No," Mr. Orcutt replied, "we do not say that, but we do contend that the inroads are not so serious as our opponents would have you believe."

Elmer A. Smith, general attorney for the Illinois Central, concluded the oral argument for the carriers. His contention was that it would be "disastrous" for the commission to remove the bituminous coal increases. In the case of his own line, the Illinois Central, he said that the increases had amounted to around \$700,000 which meant the difference between solvency and bankruptcy.

At this point, Commissioner Aitchison, who had conducted hearings in the case, spoke up to inquire whether or not Mr. Smith "had any enthusiasm for a commission investigation of divisions between the Pocahontas lines and the southern and western roads. Mr. Smith "could not say."

Commenting on the fact that witnesses had testified during the hearing that larger quantities of foreign fuel oil are coming into ports on the Atlantic seaboard every year, Mr. Smith accused the Maritime Commission of "scattering money to the wind" to subsidize U. S. ships in the foreign trade. "How," he asked the com-

mission, "can the railroads stand this competition if we do not get subsidies?"

Referring to the fact that in certain parts of the country, particularly the Middle West, manufacturers have their plants so equipped that during the summer months when there is a plenitude of natural gas because of low consumption on the part of home owners, they use gas and during the winter months they resort to coal. The same condition exists, he said, in the case of those shippers who patronize the barge lines during the summer and the railroads during the winter when the barges cannot operate. He then asked who is going to maintain the railroad system when it is only used as a last resort. In Mr. Smith's opinion, many of the shippers were fast coming to the position of caring little who supported the railroads as long as they could use them when they could not utilize any other form of transportation. It was his contention that we cannot maintain a railroad system under private ownership and management if those who use it are not willing to pay the cost of operating it.

Donald Gallagher, appearing for the Consumers' Counsel created under the act setting up the National Bituminous Coal Commission, took the position that the commission should not grant any rate increase at this time. Commissioner Aitchison wanted to know why Congress had authorized the Consumers' Counsel to represent users of bituminous coal but not users of other fuels such as gas and oil. Mr. Gallagher thought that that was a matter for Congress to decide.

The Consumers' Counsel feels that the freight rate on bituminous coal is too high at the present time and that the carriers would lose revenue rather than gain it if the increases were to be made permanent. He also warned that many industries are considering turning to oil or gas as a substitute for coal in the event that the commission makes the 10 per cent ton increase permanent.

Karl D. Loos, representing the National Coal Association, told the commission that he did not believe the increasing of coal rates was the best way to improve the revenues from that commodity. Instead, said Mr. Loos, it might be better to lower the rates on coal. He also urged that the country has a surplus of transportation facilities and that, in his opinion, the railroads will never again get as much traffic as they have in the past.

While Mr. Loos was prescribing for the carriers, Commissioner Aitchison interjected to inquire what was the "realistic thing to do." The coal association attorney would first tell the railroads to reduce rates and not raise them. Also, he believed that the country should revise its views as to what a fair rate of return is. At this point he advocated four per cent as a fair rate of return, pointing out that that figure was closer to a fair figure than was six per cent.

Another witness for the opponents was J. V. Norman, representing the Property Owners' Committee, who told the commission that the real issue in the case was whether, on this record, it would justify increased permanent rates on bituminous

coal. Interrupting his argument, Commissioner Aitchison wanted to know why the rates were reasonable up to December 31, 1938 and not reasonable thereafter. (He was referring to the time limit set by the commission in the Ex Parte 115 case.) Mr. Norman accused the railroads of being the only industry that tried to raise prices when business was falling off, but Mr. Aitchison observed that the bituminous coal industry fell in the same category.

Mr. Norman also told the commissioners that coal tonnage on the railroads had not stood up as well in this recession as it had in previous depressions. "Coal is fighting a losing battle," he asserted. Mr. Norman accused the Pocahontas lines of failing to appear and present their case at any of the hearings or at the oral argument. Mr. Souby spoke up to say that he represented them as much as the rest of the railroads. "You didn't bring any of them here," retorted Mr. Norman. Asked what his position was on recapture, Mr. Norman stated that when Congress repealed the recapture provision, it repealed all power of the commission to force any pooling arrangement.

R. E. Webb, speaking for the Kentucky Railroad Commission, took the position that since the commission had given the railroads an ultimatum to "set their own house in order" and that after 14 months they had failed to do so, the commission should refuse to make the increases permanent. He also advocated giving the commission power to fix salaries and wages in the railroad industry, Chairman Splawn asked the attorney if this would not be tantamount to government operation, and he admitted that it probably would be.

J. C. Winter, appearing for the North Dakota Board of Railroad Commissioners, asked the commission to consider the increases on lignite at the same time that rates on bituminous are before it. C. R. Hillyer, attorney for the Wisconsin Manufacturers' Association, warned the carriers that if the increases were made permanent, his clients, principally paper mills, would be forced to seek other types of fuel and other forms of transportation which would be cheaper.

E. C. Calhoun, attorney for the National Bituminous Coal Commission, argued against the continuance of the surcharge on coal, and asked the commission to take no action on increased coal rates until the coal commission had decided on minimum prices for the industry.

The case was submitted without the formality of filing briefs. Hearings on the carriers petition were held before Commissioners Eastman and Aitchison last week. At the hearings which lasted from October 17 to 22, the railroads took the position that they needed the increased revenues and that the diversion to trucks and oil and gas was a minor matter. The opponents warned of diversion to both oil and gas and told the commission that the carriers would lose more than they would gain from the increased rates, were they to be made permanent.

Equipment on Order

Class I railroads on October 1, had 7,459 new freight cars on order, as compared

with 24,345 on the same date in 1937 and 19,337 on October 1, 1936, according to the Association of American Railroads. New steam locomotives on order on October 1 totaled 14 compared with 212 on October 1, last year, and 50 on the same date two years ago; new electric and Diesel-electric locomotives on order on October 1 totaled 24 compared with 28 on October 1, 1937, and 16 on October 1, 1936.

Class I roads in the first nine months of this year installed in service 8,290 new freight cars, compared with 56,307 in the same period in 1937 and 27,178 in the same period in 1936. The railroads in the first nine months of 1938 also put in service 153 new steam locomotives and 94 new electric and Diesel-electric locomotives, compared with 269 steam and 47 electric and Diesel-electrics installed in the same period last year, and 59 steam and 21 electric and Diesel-electrics in the same period in 1936.

New freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Canada Conservatives Oppose Merger

The new head of the Conservative Party in Canada, Dr. R. J. Manion, has announced his opposition to amalgamation of the Canadian National and Canadian Pacific. In a speech last week at London, Ont., he expressed the belief that the solution of the Dominion's baffling railway problem lies in increased population and traffic and in "co-operative measures decided upon by the two Railways in consultation with their employees." The Conservative Party is the "out" party in Canada, but the Liberals, who are "in," are equally opposed to railway unification.

Argument on B. & M. Motor Act Applications

The Interstate Commerce Commission's Division 5 heard oral arguments at Washington, D. C., on October 26 on applications of the Boston & Maine and its affiliate, the Boston & Maine Transportation Company, for "grandfather-clause" rights on various motor truck routes. As pointed out in the *Railway Age* of May 28, Examiner Paul R. Naefe's proposed report in this connection recommended an Interstate Commerce Commission finding to the effect that trucking operations contracted for cannot be regarded as trucking operations of the railroad and its subsidiary; and thus do not suffice to establish rights for those companies under the "grandfather" clause.

I. C. C. Institutes Idaho Rate Investigation

The Interstate Commerce Commission, upon its own motion, has instituted an investigation to determine whether the rates, fares and charges of common carriers by railroad for the intrastate transportation of passengers and freight in Idaho cause, or will cause any undue or unreasonable advantage, preference, or prejudice as between persons or localities in intrastate commerce on the one hand, or any undue, unreasonable or unjust discrimination

against interstate or foreign commerce on the other hand. The investigation will also determine what rates, fares, or charges, if any, or what maximum or minimum or maximum and minimum fares and charges shall be prescribed hereafter in order to remove any undue advantage that may exist. No date has been set for the hearing.

Engineering Researchers Elect Officers

The Engineering Foundation, research organization of the major national engineering societies, has announced its officers' panel for 1938-39. F. M. Farmer, vice-president and chief engineer of the Electrical Testing Laboratories, New York, has been re-elected chairman for a third term. G. E. Beggs, professor of civil engineering, Princeton University, was elected vice-chairman. The executive committee includes Mr. Farmer and A. L. J. Queneau, metallurgist, United States Steel Corporation; Professor W. I. Slichter of Columbia University; K. H. Condit of the National Industrial Conference Board; and Professor Beggs. The following will serve as chairmen of committees during 1938-39: Research Procedure Committee—F. F. Colcord; Iron Alloys Committee—Professor G. B. Waterhouse, Massachusetts Institute of Technology; Welding Research Committee—C. A. Adams, consulting engineer, E. G. Budd Manufacturing Company.

Rock Island Starts Construction Project

The Chicago, Rock Island & Pacific is undertaking the construction of a cut-off 7.88 miles long between Kismet, Kan., and Hayne, on its Chicago-California line, which involves nearly 3,000,000 cu. yd. of grading and the construction of a bridge across the Cimarron river, 1,269 ft. long and 92 ft. above the low water level of the stream. This line will materially improve the grades and curvature and will effect a saving of 3.57 miles in distance, while eliminating the hazard of a low level pile trestle crossing of the stream.

The new line will eliminate 8 curves and will reduce the curvature by 353 deg. It will also reduce the grade for eastbound trains from 0.8 per cent to 0.5 per cent, except for a short section of 1.0 per cent momentum grade and will eliminate 106 ft. of rise and fall.

The bridge across the Cimarron river will consist of five 250-ft. riveted deck truss spans on reinforced concrete abutments and piers. The piers will be carried down to a depth of 150 ft. below the base of rail and will rest on pneumatic caissons. The project is expected to be completed by April 1, 1939.

Railroads Join in Marine Borer Research

Pier property owners in New York harbor, in an effort to curtail destruction by marine borers, have formed a Marine Borer Research Committee composed of representatives of railroads, the Maritime Association of the port, Port of New York Authority, New York City Department of Docks, and other organizations. F. C.

Kronauer, division engineer of the Erie, has been elected treasurer of the group.

Freight Car Loading

Revenue freight car loadings soared to a new high for the year when for the week ended October 15 the figure stood at 726,612, an increase of 23,648 cars or 3.4 per cent above the preceding week, but a decrease of 79,483 cars or 9.9 per cent below the corresponding week in 1937 and a decrease of 228,170 cars or 23.9 per cent below the same week in 1930. All commodity classifications except coke showed increases over the preceding week, while all commodity classifications except grain and live stock showed decreases under last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loadings

For Week Ended Saturday, October 15

Districts	1938	1937	1936
Eastern	147,738	162,362	161,743
Allegheny	128,316	151,760	160,445
Poconos	53,588	55,749	58,596
Southern	107,554	113,158	111,299
Northwestern ..	104,780	124,832	135,575
Central Western ..	127,648	135,202	132,540
Southwestern ...	56,988	63,032	66,327
Total Western Districts	289,416	323,066	334,442
Total All Roads.	726,612	806,095	826,525
Commodities			
Grain and Grain Products	43,193	35,416	32,579
Live Stock	22,718	21,830	22,611
Coal	137,321	159,732	157,144
Coke	6,069	9,520	10,582
Forest Products..	32,569	37,083	36,033
Ore	30,737	50,139	55,281
Merchandise l.c.l.	160,043	169,636	169,317
Miscellaneous ...	293,962	322,739	342,978
October 15	726,612	806,095	826,525
October 8	702,964	812,258	820,570
October 1	697,938	843,861	819,597
September 24 ..	675,553	836,885	807,243
September 17 ..	660,142	822,795	789,857

Cumulative Total,
41 Weeks 23,575,375 30,764,303 28,106,399

In Canada.—Carloadings for the week ended October 15 totaled 56,769, as compared with 60,637 in the previous week and 56,781 a year ago, according to the weekly statement of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Oct. 15, 1938	56,769	22,057
Oct. 8, 1938	60,637	23,854
Oct. 1, 1938	61,925	25,605
Oct. 16, 1937	56,781	25,700

Cumulative Totals for Canada:		
Oct. 15, 1938	1,901,990	836,537
Oct. 16, 1937	2,067,556	1,085,281
Oct. 10, 1936	1,909,519	942,059

Wages and Hours Law Effective October 24

Railroad employees generally came within the minimum-wage provisions of the wages and hours law when that act became effective on October 24. The carriers, along with other transport agencies subject to the Interstate Commerce Act, are exempt from the maximum-hours provisions. The minimum wage is fixed at 25 cents per hour for the first year of the law's operation; then it becomes 30 cents, and after six years, 40 cents.

It is not anticipated that the 25-cents minimum will affect any great proportion of railway employees. It is expected, how-

ever, that many questions of interpretation may arise before it is finally determined what railroad employees are involved i. e. those actually engaged in interstate commerce. Like other industries the carriers are expected to have an industry committee to work in conjunction with Administrator Andrews, a matter which was before a recent meeting of the Association of American Railroads board of directors.

Pennsylvania Announces Completion of Pier at Sandusky

Completion of a new pier in addition to the existing facilities of the Pennsylvania at Sandusky, Ohio, for the transfer of coal from cars to boats on Lake Erie, by December 1, is announced by the Pennsylvania. The improvements consist of a new pier reaching nearly a mile into Sandusky bay and an additional car dumper, which will increase the capacity of the facilities by 60 per cent.

The pier is approximately 4,500-ft. long, has a width varying from 150 to 600-ft., and stands 12-ft. above the water line. The car dumper erected on the new pier, will be electrically-operated and will be served by a load yard with a capacity of 300 cars and an empty-car yard of 250 cars capacity. The new dumper will be capable of handling cars up to 120-tons capacity. The load yard is to be equipped with electric pusher engines and the empty-car yard will be served by car retarders. The entire improvement is constructed so as to provide for future development and the installation of another car dumper, together with additional car yards.

In addition to the construction of the dock, the work involved the construction of a new channel along the east side of the dock, 400 ft. wide, and the construction of a new approach channel, 300 ft. wide and 8,000 ft. long, parallel with the existing ship channel and connecting with the entrance channel to Sandusky bay, near Cedar Point. This channel work involves 2,500,000 cu. yds. of dredging.

The work on this dock which is part of a project which will ultimately mean the expenditure of \$7,000,000 is expected to be completed ready for operation when the 1939 navigation season gets under way.

New Haven Holds Second Harvest Excursion

Some 460 New Yorkers again this year, on October 22, took in the annual "Husking Bee Excursion" which the New York, New Haven & Hartford inaugurated just a year ago as an experiment getting city people versed in the joys of rural life—and, incidentally, in traveling by rail. As last year, the well-filled, nine-car train left Grand Central terminal, New York, in mid-afternoon and proceeded directly via Danbury, Conn., to the town of Kent, located about 90 miles from New York in the Housatonic river valley.

Here the local grange association fed the urbanites with wholesome meat loaf, potatoes and beans, topped off by numerous "sections" of apple and pumpkin pie. Then followed a contest between the "reds" and the "blues" in the husking of corn and a group of square dances under the direction of a caller and rural "orchestra." The

crowd arrived back in Grand Central just in time to disturb the cleaners at about 2 a. m.

Even more would-be passengers had to be turned away than last year, due to limitations of facilities at Kent and more widespread knowledge of the trip's attractions.

The press again appeared a car-full strong and kept photographers flickering flash bulbs in action most of the time. In addition, huge electric reflecting lights were set up in Grand Central at the start of the trip and in the grange hall during the dancing to aid photographers and for special use in connection with sound-motion picture equipment sent by Paramount News. More complete details, as applicable to the initial trip of last year, were published in the *Railway Age* for October 30, 1937, page 618.

B. & M. Restores Service

The main line of the Boston & Maine's Fitchburg division between Boston, Mass., Troy, N. Y., and Mechanicville was reopened for train service at six a. m., October 23. This restoration of service to and from the west marked the opening of a line which suffered major flood damage at more than 50 locations, including destruction of five bridges. The detour freight routes with which the Boston & Maine maintained service in and out of Boston ever since the flood, and which lately have been via Bellows Falls, Vt., and the Cheshire branch; and via White River junction, Vt., and Concord, N. H., were discontinued at the same time.

Commencing the morning of October 24 all regularly-scheduled passenger trains were restored between Boston and Bellows Falls, Vt., via the Cheshire branch; on the Connecticut River division between Springfield and White River junction and on the New Hampshire division between Concord and White River junction. A curtailed passenger service has been operated on these routes since the flood in order to make way for the movement of food stuffs, building materials, and other necessary freight.

Full through passenger service had not yet been restored at time of writing on the Fitchburg division between Boston and Troy. On October 26, train No. 51, leaving Boston early in the morning, was dispatched through to Troy for the first time; No. 61 was also run through to Greenfield, Mass. The Minute Man, however, carrying through sleepers to Chicago, had not yet been restored on that date, and train No. 55 was still scheduled to terminate at Gardner, Mass., from which point emergency buses have been carrying passengers to Greenfield for train connections beyond during the period of line blockade.

Accident Details—July, 1937, to July, 1938

Violations of rule 93 caused 9 out of 95 reported accidents during the 12 months' period ended June 30, which are listed in Summary of Accident Investigation Reports No. 76, recently issued by the I. C. C.'s Bureau of Safety. Infractions of this rule—which covers the occupancy of main track within yard limits and specifies the speed of road trains moving within yard

limits—were responsible for more accidents within the 12 months' period than any other single operating factor. [The importance of Rule 93 was emphasized by W. J. Patterson, director of the Bureau of Safety, at the last regional safety meeting of the A. A. R. in Chicago, in an address abstracted in the *Railway Age* for September 17, page 407.—Ed.]

Of the total of 95 reported accidents, 21 were attributed by the bureau, either wholly or in part, to roadway influences; 7 were laid to rail or switch failures, 4 to structure faults, 7 to landslides, rock-slides or washouts and 3 to miscellaneous obstructions on track. Failures in rolling stock were cited as the cause of 9 accidents, and the contributing cause of 1 mishap. Such mechanical factors included 2 coupler failures, 3 truck and side clearance irregularities, 2 arch-bar truck breakdowns and 1 broken journal due to overheating.

Collision with highway vehicles at grade crossings were responsible for 9 more reportable incidents; in only one instance was the accident attributed in whole or in part to railroad negligence.

The remainder of the accidents (except one, reported as "cause not definitely determined") were laid to violation of operating rules. Some 9 collisions were due to failure to heed block and interlocking signal indications properly and one to failure of towerman to give proper interlocking indication; another 9 were brought about by misreading or faulty issuance of train orders; 28 were due to direct violation of other rules; while 11 may be classified as miscellaneous and due only indirectly to rule infraction. A total of 183 deaths and 1040 injuries were incurred in this group of accidents. Passenger or mixed trains were involved in 49 cases.

Truck Movement of Freight Above 1937 for First Time this Year

For the first time this year, the September movement of freight by truck exceeded in volume the 1937 tonnage, according to American Trucking Associations, Inc.'s monthly compilation of loadings. The A. T. A. truck loadings index figure based on the 1936 monthly average as 100 stood at 106.84, for the month, compared with 107.73 in August and 90.68 in July.

Comparable reports received from 164 carriers in 35 states showed an aggregate total of 679,187 tons, as compared with 665,098 tons in September last year and 664,290 tons in August, 1938. The current figures represent an increase of 2.11 per cent over last year and 2.24 per cent over the preceding month. The increase in tonnage the statement says "is believed to be significant as indicating a general improvement in business, especially in view of the fact that drivers' strikes in Baltimore, Md., New York, Kansas City, Mo., and Omaha, Neb., and the hurricane in New England interfered with the normal movement of traffic."

September gains were heaviest in the general merchandise class (l.c.l. freight) and in the transportation of petroleum and petroleum products, offsetting losses in traffic among automobile and iron and steel carriers. In the general merchandise class,

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But only when properly heat-treated can they develop their unusual characteristics of strength and toughness.

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Lima's heat-treating facilities bring out the best in alloy steels.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

which accounted for approximately 80 per cent of the total tonnage, September loadings were 5.94 per cent over a year ago and 3.31 per cent over August, 1938; the movement of petroleum products last month was 24.3 per cent over the corresponding period a year ago, but 1.45 per cent under the August total. Automobile transporters, whose tonnage has been reduced sharply because of factory shut-downs on account of changing of models, reported a decrease of 56.43 per cent under September, 1937, and 10.9 per cent under August, 1938. Iron and steel haulers, while enjoying a slightly less than 1 per cent increase over August, reported that their September loadings were 9.62 per cent under a year ago.

Speakers Announced for "Y" Conference

American and Canadian speakers, representing both railroad management and labor are slated as speakers at the 21st triennial conference of the Railroad Y. M. C. A.'s of North America, to be held on November 9 to 11, inclusive, at the Royal York hotel, Toronto, Ont. Sir E. W. Beatty, chairman and president of the Canadian Pacific, will take the topic, "The Obligation of Railroad Capital and Management," while George M. Harrison, taking another angle of the subject, will speak on "The Obligation of Labor." "Transportation Problems from the Viewpoint of Government" will be discussed by the Hon. C. D. Howe, Canadian Minister of Transport.

Among the Americans to speak and lead discussions during the three-day conference are: Miss Avis Lobdell, special executive, Union Pacific; J. E. Sproul, executive secretary, National Council Y. M. C. A.'s; R. C. Morse, vice-president, Pennsylvania; Roy V. Wright, managing editor of *Railway Age*; J. E. Manley, general secretary, National Council Y. M. C. A.'s; G. K. Roper, national "Y" transportation secretary; J. B. Parrish, assistant vice-president Chesapeake & Ohio; A. O. Herman, assistant to general manager, Baltimore & Ohio; Dr. J. W. Nixon, author, and E. G. Wright, assistant superintendent, New York Central.

Researchers Recommend Wringer or Rescue Party for Rails

The incomplete revival of railroads during the recovery period, taken with other definite signs indicating that many roads will be unable in the long run to support their debts, "suggests strongly that there must be some fundamental change in their operating conditions before they can hope to earn a reasonable return on their present capitalization," it was asserted in a research report made this week by the Twentieth Century Fund, New York—an endowed economic research agency.

With railway net incomes only one-eighth as large in 1937 as in 1929, and with fixed charges actually higher, the fall in railroad revenues and continued deficits lead to the forecast that "unless some unexpected change for the better soon sets in, it is virtually certain that we must have either wholesale reorganization, or some sort of government rescue party."

Meanwhile, all other public utilities (ex-

cept electric railways) appear to have maintained a fairly liquid position through the depression, the report finds.

"Since the low point of the slump, the debt situation of utilities has decidedly improved," the report says. "Utility bond prices broke all high records in 1936; and refinancing (except for companies affected by uncertainty as to what T. V. A. will do) was comparatively easy in 1936 and 1937, though handicapped in later 1937." It adds that "utility bonds in default of interest were 25 per cent less in 1935 than they had been at the 1933 peak, while railway bonds in default of interest were 44 per cent more."

"The feeling of [railroad] stockholders is shown by the fact that prices of railway stocks fell in June, 1938, to one-third their level of March, 1937, while industrial stocks stood at nearly two-thirds their 1937 peak. Certain officials are on record as believing that revenues can be increased only by raising rates—a counsel of despair, since higher rates will discourage shippers. At least one critic suggests that the railroads are entering their period of economic old age, and that their failure to pay off debts while they had adequate earnings may make it necessary to write off many debts later on."

The railroad report is part of a three-year investigation into the nation's post-war debt structure by a group of research specialists under sponsorship of the Twentieth Century Fund.

Public Relations at C. & O. Meeting

(Continued from page 638)

available to staff members at a price of \$2 per set; nearly 15,000 sets have been distributed. Finally, in co-operation with the Canadian Association of Adult Education, the company is sponsoring classes in various technical and general studies in key points on the system.

In the afternoon session, J. H. Day, vice-president (traffic) Nickel Plate, spoke upon the topic "Good Will" and Judge R. V. Fletcher, vice-president and general counsel, A. A. R., discussed the railroads' program for the solution of the transportation problem. A general discussion followed, led by A. T. Lowmaster, vice-president and general manager, C. & O., and W. C. Hull, vice-president (traffic), C. & O.—Pere Marquette.

Railroads, business and politics were the theme of a talk delivered at the evening banquet by Fitzgerald Hall, president, Nashville, Chattanooga & St. Louis. Therein the speaker censured both politicians and business men for their inequitable treatment of the railroads.

Four speeches comprised the morning session of October 22. George A. Kelly, vice-president, the Pullman Company, discussing, "Public Relations—and Loyalties," introduced the conviction that "today, private enterprise finds itself on trial for its life" and that the outcome of that trial rests in the hands of the public. Contact with employees, he believed, would ac-

complish much in encouraging a favorable attitude. Said he: "There is a loyalty of management to men, just as important and just as essential, as the loyalty of employees to their employer and their industry. One way for management to give effective expression to this obligation of loyalty is to give employees more information about the business."

Speaking on "Facing the Facts," J. M. Fitzgerald, vice-chairman, Eastern Presidents' Conference, dealt one by one with criticisms leveled by many against railway management. John C. Shields, general solicitor, Pere Marquette, discussed the legislative aspects of the railroad problem. C. A. Radford, publicity manager, the Big Four, emphasized the need for begetting employee-loyalty so that there is developed in the entire railroad staff a sense of trusteeship. In the afternoon a short session was held for the members of the staff of the Chesapeake & Ohio Lines Magazine, with remarks by Walter Jackson, advertising manager.

I. C. C. Set-up Good Enough for Meyer

(Continued from page 638)

quoted from the official correspondence of Judge Cooley to show that "before the commission had functioned for 30 days it had received complaints of delay." He went on to discuss such "allegations of delay," which "have continued to be made into our own day." Most current criticism of delay, he said, is related to cases involving reorganizations of railroads, although "the commission has made every reasonable effort to keep reorganization proceedings moving and to bring them to a conclusion." On this delay question, "generally speaking and with reference to all the work of the commission," Mr. Meyer "would like to say with emphasis that delay in any proper sense of the word is rare."

In endorsing the commission's civil service set-up Commissioner Meyer said that his 28 years of experience as a member of the commission has led him to believe that "the uniform and impartial application of civil service rules to employees of the government is indispensable to the highest degree of success in government work."

Meanwhile most of Commissioner Meyer's address was devoted to his tribute to Judge Cooley, without whose name, he said, "no list of great Americans can be complete." He added that the first chairman's service on the commission constitutes "a model, an illustrious example of public service to be followed, as far as one may be capable of doing so, by each of his successors on the commission and by all who are engaged with us, whether as members of our larger family organization, or as citizens." Mr. Meyer also spoke of Secretary Moseley whom he called "a living dynamo, a crusader whose hosts were organized to rescue, first, the railroad operating men, and second, the travelers on railroads, from the physical dangers threaten-

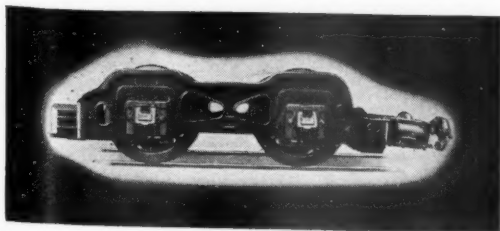
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NEW YORK HERALD TRIBUNE, SUNDAY, JULY 17, 1938

Steam and Speed

The dispatches from London recording that the streamlined Coronation Express has achieved an official speed of 125 miles an hour comes as one more evidence that the day of the steam locomotive is far from over. The new Diesels have extraordinary virtues, combining sustained speed with a new standard of economy. The potentialities of steam power are still very far from exhausted. But it is a mistake to credit the Coronation Express with the world's highest rail speed. According to a table of speed records appended to an article on the general stepping up of passenger train schedules, by Gilbert Burck in the current issue of "Scribner's Magazine," the fastest time ever made by any train is listed as the 127.5 miles an hour achieved on June 12, 1905, by the Pennsylvania Special at Elida, Ohio, over three sustained miles of a passenger haul. Indeed, the turn of the century was the era of high speed runs and the achievement of railroad records. It was in May, 1893, that Charlie Hogan wheeled the New York Central's 999 hauling the Empire State Express between Syracuse and Buffalo at 112.5 miles an hour. Within the following decade this record was broken twice, once by a startling margin of 115.2 miles an hour on the Philadelphia & Reading near Atlantic City and in March, 1901, when a Plant System mail train ran five miles from Fleming to Jacksonville, Fla., in two and a half minutes, or just 120 miles an hour. Four years after this the Pennsylvania Special hung up its record for all the world to shoot at and nobody seems to have bettered it to date.

Whether drawn by steam or Diesel, railroad trains still have untapped resources of speed, it would seem. A report, current in railroad circles, declares that the New York Central's new series Hudsons, designed to haul the streamlined Twentieth Century Limited, have reached a theoretical speed of 150 miles an hour in a test on a greased track.



The New York Central engines are equipped with the Locomotive Booster to assure smooth starting and quick acceleration to road-speed.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

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ing them as a result of the absence of proper methods and appliances for the operation of the railroads during the earlier years of the existence of the commission."

In accepting, on behalf of the commission, the bust of Judge Cooley and the tablet memorial to Secretary Moseley, Commissioner Meyer did so "with deep gratitude and appreciation," adding that they would be placed "where all who pass through this building may see and admire them."

President Miller of the practitioners' association made the address in connection with the presentation of the bust of Judge Cooley. He paid tribute to the commission's first chairman, bringing out highlights of his career as a lawyer, a teacher, a jurist, a historian, a railroad receiver, a writer and a commissioner. Making the presentation of the Moseley memorial tablet, Mr. Bartel sketched the accomplishments of the commission's first secretary in the interest of safety for railroad employees.

Transport Clinic To Be Continued

(Continued from page 637)

the basis of intrastate rates so as to avoid discrimination against interstate commerce and so that the intrastate rates may go into effect contemporaneously with the changes in interstate rates?

3. Should the Commission be empowered to suspend a reduction in intrastate rates where there is a prima facie showing that such a reduction would unlawfully discriminate against interstate commerce?

RELIEF FROM BURDENS AND RESTRICTIONS

1. Should the land-grant statutes be repealed?

2. Should railroads be relieved of expense in excess of direct benefits to them for elimination of railroad grade crossings and reconstruction of railroad bridges in connection with navigation or flood control projects?

3. Should carriers be relieved of the undistributed profits tax?

4. Should Congress require the government to dispose of the federal barge lines to private parties?

5. Should restrictive measures such as train-length limit, excess-crew laws, six-hour days, etc., be avoided?

6. Should the Railway Labor Act be amended—

(a) To include public members in odd numbers on Adjustment Boards so as to insure disposition of each case in the first instance?

(b) To authorize federal court review of Adjustment Board decisions at the instance of the railroads as now allowed employees?

(c) To place a limit upon the time within which claims can be presented?

COORDINATIONS, CONSOLIDATIONS AND ABANDONMENTS

1. To facilitate coordinations (and also consolidation), should the railroads be relieved of the burden of the dismissal and

displacement allowances under the "Washington Agreement" between railroads and employees by crediting same against payments due as railroad unemployment insurance taxes?

2. To facilitate voluntary consolidation should there be legislation repealing present requirements as to comprehensive plan, balanced systems, maintenance of all possible competition and preservation of existing trade channels?

3. Should there be provision for complete or regional consolidation?

4. Should power of eminent domain be given over minority stock interests and lines desired in consolidations approved by Interstate Commerce Commission?

5. Should the power of Reconstruction Finance Corporation be clarified to cover purchase of new securities of reorganized or consolidated property in order to furnish essential cash to revamp physical plant and to purchase if desirable, minority interests?

6. Should a federal authority of three members be established for a period not to exceed five years to develop and to promulgate plans for the coordination and consolidation of the railroads?

(a) Should the Interstate Commerce Commission have powers of compulsion as to coordinations and consolidations proposed by the Authority, or

(b) Should the Authority itself have power to compel coordination and consolidations, or

(c) Should the Authority have power to recommend to Congress legislation necessary for purposes of compulsion, if the Authority, after investigation, shall determine that such legislation is necessary?

7. Should legislation be adopted requiring more expeditious disposition of abandonment applications?

FINANCIAL REORGANIZATION OF RAILROADS

1. To facilitate reorganizations should there be legislation which would permit a carrier and its creditors and security holders to secure approval by the Interstate Commerce Commission of a plan of reorganization which, when so approved, may be made effective against minority interests without delay by a bankruptcy court and without the appointment of a trustee?

FEDERAL FINANCIAL AID

1. Should government loans to railroads be authorized on basis of the 1920 Act on earning prospect of the applicant and without requiring certificate that applicant is not in need of financial reorganization?

2. Should government loans be authorized for new equipment purchases by railroads?

3. Should Reconstruction Finance Corporation be empowered to purchase obligations of railroads from outstanding holders, either at market prices or at prices to be fixed by Reconstruction Finance Corporation without certificate from Interstate Commerce Commission?

4. Should the Reconstruction Finance Corporation be empowered to furnish equity money or junior security money in proper situations, especially in the case of railroads coming out of reorganization or railroads being consolidated?

Equipment and Supplies

LOCOMOTIVES

NEW YORK CENTRAL.—The purchase of 29 Diesel-electric switching locomotives for service in the Buffalo Terminal district has been announced by F. E. Williamson, president of the New York Central System. The purchase involves an expenditure of about \$1,825,000 which will be made in installments over a period of 8 years; 20 of these locomotives will be furnished by the Electro-Motive Corporation and the remaining 9 locomotives by the American Locomotive Company. Each locomotive will be of 600 hp. capacity and will weigh 110 tons. See *Railway Age* of October 8, page 536.

FREIGHT CARS

THE NEVADA CONSOLIDATED COPPER CORPORATION has placed an order with The Austin-Western Road Machinery Company for 30 air dump cars of 30 cu. yd. capacity. Inquiry for this equipment was reported in the *Railway Age* of September 24, page 461.

THE BOARD OF TRANSPORTATION, CITY OF NEW YORK, which was reported in the *Railway Age* of September 17, page 420, as having opened bids for miscellaneous cars, has let contracts as follows: To the St. Louis Car Company, four flat cars and two money-collecting cars, and to the Magor Car Corporation, one crane car.

SOUTHERN.—Subject to the approval of the Interstate Commerce Commission as to the issuance and sale of securities to finance the cost, this company has agreed to add 2,400 new freight cars to be built by manufacturers as follows: Pullman-Standard Car Manufacturing Company, 1,300 sheathed box cars of 40 tons' capacity to cost about \$3,000,000; Mt. Vernon Car Manufacturing Company, 1,000 all-steel, drop-bottom, high-side, gondola cars of 50 tons' capacity to cost about \$2,000,000. The road will also supplement its previous order for 250 steel underframe, composite superstructure stock cars now under construction by ordering 100 additional cars of this type from the Ralston Steel Car Company. See *Railway Age* of October 22, page 610.

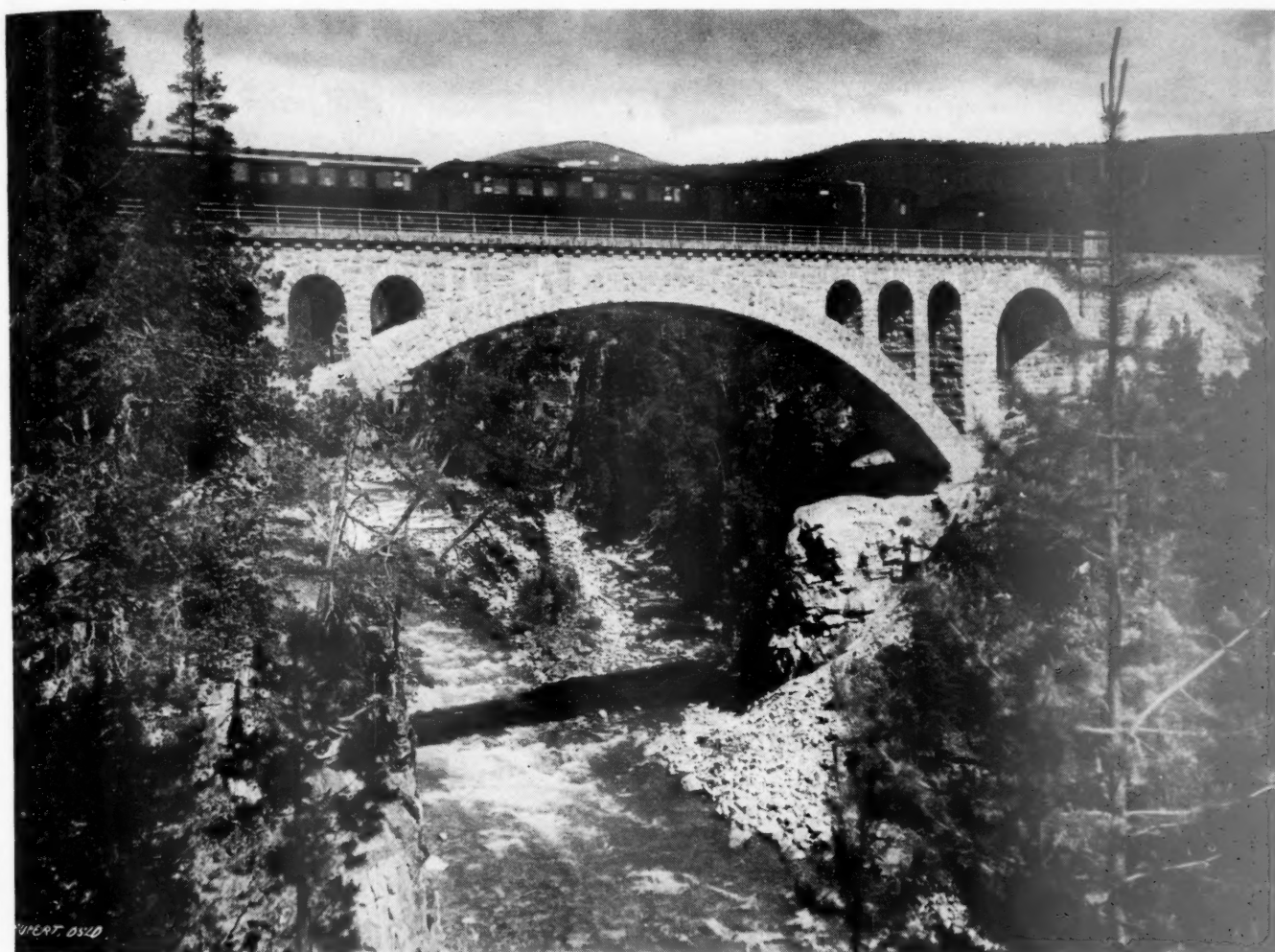
IRON AND STEEL

THE CHICAGO, ROCK ISLAND & PACIFIC has placed an order with the American Bridge Company for 2,450 tons of structural steel for use in a bridge over the Cimarron river near Arkalon, Kan. The order includes five 250-ft. deck truss spans.

PENNSYLVANIA.—A contract has been given to the American Bridge Company for about 800 tons of structural and catenary steel, for grade crossing elimination work on this road at Woodbridge, N. J. James Stewart & Company, Inc., New York, has the general contract.

Continued on next left-hand page

NO. 71 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



JORA BRIDGE

NORWAY

Crossing the River Jora, between the Dombas and Andalsnes stations, is the 85 metre Jora Bridge. This span, which is an outstanding structure of the Rauma Railway (Norwegian State System) was built in 1918 and is constructed completely of Norwegian granite. The main span is 54 metres and there are two smaller

spans of 9 and 6 metres respectively. The height from the water level to the top of the rails is 35 metres. The Security Sectional Arch is today an essential element of the modern high speed, high capacity steam locomotive. To realize full economy from your arch be sure that it is *complete*.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

**HARBISON-WALKER
REFRACTORIES CO.**

Refractory Specialists



**AMERICAN ARCH CO.
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60 EAST 42nd STREET, NEW YORK, N. Y.

**Locomotive Combustion
Specialists**

SIGNALING

MOBILE & OHIO.—Sealed proposals will be received by W. J. Diehl, purchasing agent of this road, Fullerton building, St. Louis, Mo., until 3:00 p. m., November 15, for furnishing certain materials for flashing light signal installations at highway crossings under the federal grade crossing program, as follows: One each at Waynesboro, Miss.; at Ramer, Tenn.; at Trenton, Tenn., and two at Humboldt, Tenn.

Construction

CANADIAN NATIONAL.—Contracts have been awarded for grade separation projects in St. Henri and for the replacement of an existing subway in Point St. Charles (suburbs of Montreal, Que.), according to an announcement made by C. B. Brown, chief engineer operation department, Canadian National. The work will begin immediately on these projects and it is estimated will be completed by July 1, 1939. For the construction of a subway at Ste. Marguerite street, St. Henri Ward, and for the replacement of the present substructure at D'Argenson street, St. Gabriel Ward, tenders of the Atlas Construction Company were accepted. For the superstructure of the D'Argenson street subway the tender submitted by the Dominion Bridge Company was accepted. To build a subway in Notre Dame street, St. Henri Ward, the tender submitted by Duranceau & Duranceau was accepted. The cost of these works is being provided for out of the grade separation fund and from government relief monies. To carry out some of this work, it will be necessary to raise the Canadian National tracks and to partially depress the streets affected. It is also proposed to close two streets, St. Ferdinand and St. Philippe and to maintain uninterrupted traffic by building a subway of reinforced concrete at Ste. Marguerite street.

MISSOURI PACIFIC.—A contract amounting to approximately \$23,000 has been awarded the L. J. Bird Construction Company, Poplar Bluff, Mo., for driving approximately 22,500 poles and 1,850 ties for roadbed stabilization, in 27 locations on the Arkansas division of this road between Mort, Ark., and Guernsey. The estimated cost of the entire project, which is a part of a roadbed stabilization program, is \$59,000.

NEW YORK, CHICAGO & ST. LOUIS-PENNSYLVANIA.—Revised plans and an estimate of cost of \$636,460 for the elimination of the Brigham road, Central avenue and Washington avenue crossings of the Pennsylvania in Dunkirk, N. Y., have been approved by the New York Public Service Commission. These plans and the estimate of cost were submitted by the New York, Chicago & St. Louis. The commission also authorized the New York, Chicago & St. Louis and the Pennsylvania to do certain work in connection with the

elimination of these crossings by direct employment of labor and purchase of materials. The New York, Chicago & St. Louis work includes temporary and permanent changes in its tracks and signal system, constructing temporary trestles, re-locating freight house, platforms and passenger station, changes in its telegraph and telephone line and extraordinary track maintenance. The Pennsylvania work includes temporary and permanent changes in its tracks and signal lines, also in its telegraph and telephone line, raising water tank and extraordinary track maintenance. The amount for work by the New York, Chicago & St. Louis was limited to \$113,397 and for work by the Pennsylvania to \$39,567.

SOUTHERN PACIFIC.—A contract has been awarded the Campbell Construction Company, Sacramento, Cal., by the Division of Highways of the State of California for the construction of a subway under the tracks of this road about four miles north of Ben Ali, Cal. The structure which will cost approximately \$102,035 will consist of a through girder span with ballasted steel deck on concrete abutments with wing walls.

Supply Trade

John A. MacLean, Jr., assistant to the president of the **MacLean-Fogg Lock Nut Company**, Chicago, has been elected president, to succeed **John A. MacLean**,



John A. MacLean, Jr.

whose death on August 13 was reported in the *Railway Age* of August 20. Mr. MacLean, Jr., was born at Wilmette, Ill., on January 22, 1905, and graduated in civil and mechanical engineering from Sheffield Scientific School, Yale University, in 1927. The following year he went with the MacLean-Fogg Lock Nut Company as assistant to the president.

Fred Lavis, consulting engineer of New York, has been appointed consulting engineer to the Government of Venezuela to make a general examination of the land transportation problems of that country from an engineering and economic point of view. An extensive program of high-

way and railway development is under consideration.

James A. Bradley & Company, Chicago, have been appointed distributors for **Youngstown Sheet & Tube Company's** tubular products.

Edwin C. Barringer, formerly editor of the *Daily Metal Trade*, has been elected executive secretary of the **Institute of Scrap Iron & Steel, Inc.**

W. I. Howland, Jr., vice-president in charge of western sales of the **Carnegie-Illinois Steel Corporation**, Chicago, has been transferred to Milwaukee, Wis., as manager of sales.

OBITUARY

G. La Rue Masters, vice-president of the **National Lock Washer Company**, Newark, N. J., died on October 25, at his home in South Orange, at the age of 58 years.

J. Donald Cunningham, a sales engineer of the **Southern Wheel Division of The American Brake Shoe and Foundry Co.**, died at his home in Cleveland, Ohio, on October 7, after a short illness.

John F. O'Connor, who retired as consulting engineer of **W. H. Miner, Inc.**, Chicago, in 1930, died on September 28 of a complication of ailments. He was born in Ireland in 1864, and started work at the age of 15 as a machinist's helper for the **New York, New Haven & Hartford**. After holding the positions of machinist, and locomotive inspector, he became general foreman of the roundhouse and shops at Providence, R. I., from which position he resigned to enter the employ of the **Sterlingworth Railway Supply Company**. Five years later, in 1904, he resigned to become mechanical engineer for **W. H. Miner, Inc.**, and later was appointed consulting engineer, which position he held until his retirement in 1930. Mr. O'Connor had obtained approximately 1,000 patents, most of which covered draft gears and parts. Other patents covered snow plows, wrecking equipment and shop devices. One of the most important of these is a chronometer for measuring with extreme accuracy the reaction developed upon impact of two bodies at high speed, a device that has been of great help in measuring the stress to which draft gears are subjected.

TRADE PUBLICATION

RAILROAD AND INDUSTRIAL CARS.—Many products of the **Pressed Steel Car Company** (Koppel division) Pittsburgh, Pa., are illustrated and described in this company's 16 page Bulletin No. 71 entitled **Dependable Industrial Railway Cars for Service Everywhere**. Among the products shown are various types and sizes of dump and platform cars; cars for special services, such as heavy-duty trams, quarry, ladle, hopper and transfer cars; the standard types of railroad cars, such as box, gondola, cattle, tank, flat and sugar cane cars; various accessories and supplementary equipment, such as buckets, skips, standard safety type and automatic couplers, and link-pin couplers; arch bar trucks

Continued on next left-hand page

Locomotives Cost Less To Operate

when equipped with

ELESCO TYPE "E" SUPERHEATERS

A locomotive with a Type "E" Superheater delivers higher degrees of superheated steam to the cylinders, than would be possible if the locomotive had a Type "A" Superheater.

From the test data obtained on a modern high speed freight locomotive, you can see how the cost of horsepower goes down as the degree of superheated steam goes up.

STEAM TEMPERATURE	STEAM PER I.H.P.-HR.	SAVING IN STEAM From the Use of Superheat
Saturated Steam	28 lb.	—
150° Superheat	21 lb.	25.0%
200° Superheat	18 lb.	35.6%
250° Superheat	16 lb.	43.0%
350° Superheat	14 lb.	50.0%

Equip your locomotives to operate at the lowest possible cost . . . with Elesco Type "E" Superheaters.

One of a group of twenty locomotives of the Southern Pacific Company, all equipped with Elesco Type "E" Superheaters.

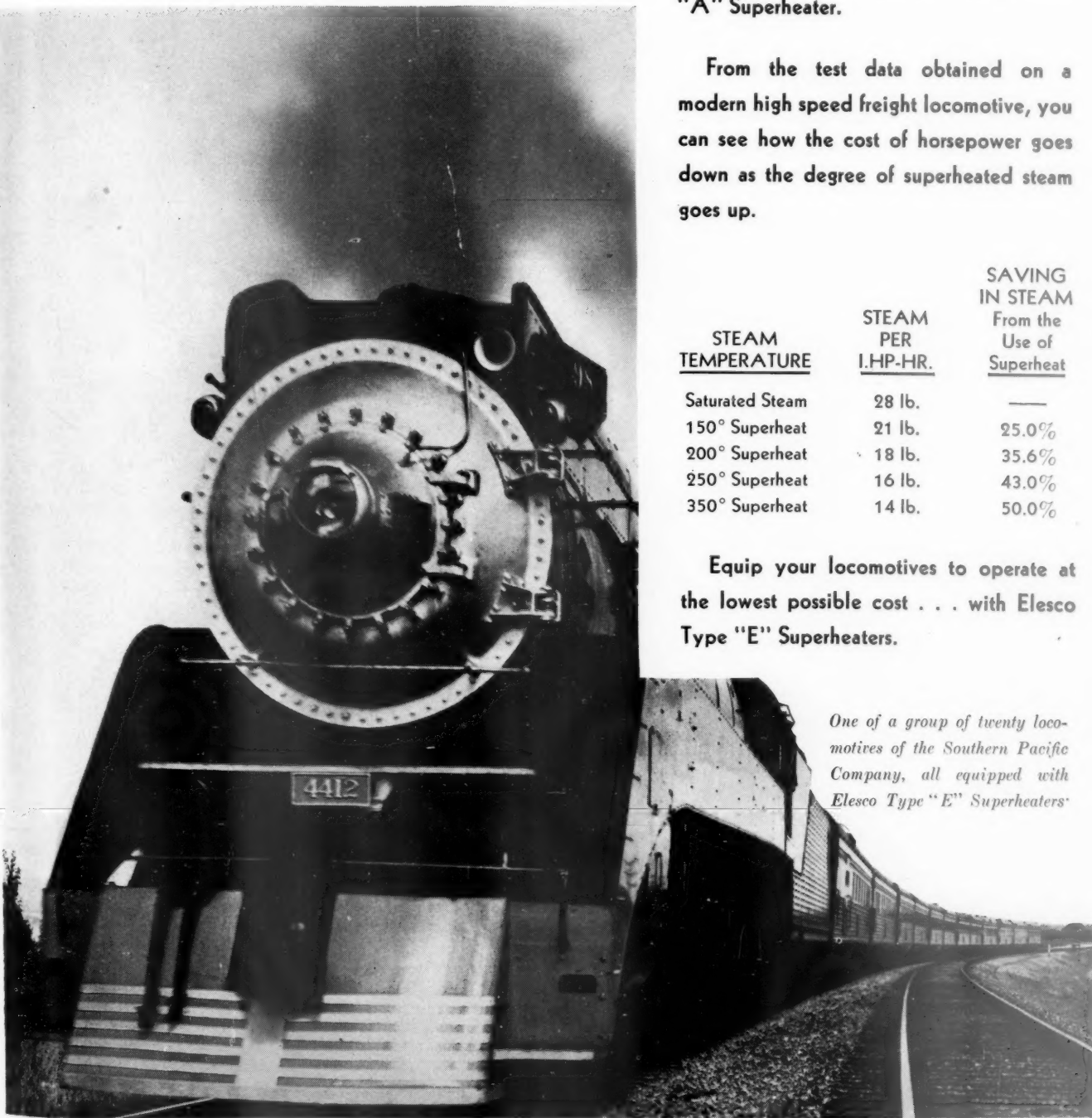


Photo by R. I. Nesmith



A-1275

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

60 East 42nd Street, NEW YORK

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Canada: THE SUPERHEATER COMPANY, LTD., MONTREAL

Superheaters • Exhaust Steam Injectors • Feed Water Heaters • American Throttles • Pyrometers • Steam Dryers

and cast steel trucks; typical installations on standard railway cars of Timken and Hyatt roller bearings; journal boxes and wheels, and sections of industrial track, switches, crossings, steel ties and turntables.

Financial

BALTIMORE & OHIO.—Withdrawal of Alton Loan Application.—The Interstate Commerce Commission, Division 4, has dismissed, at the applicant's request, an application of the Alton for an extension or renewal until September 1, 1942, of an existing loan of \$1,894,632 from the Reconstruction Finance Corporation.

BALTIMORE & OHIO.—Dismissal of R. F. C. Loan Application.—The Interstate Commerce Commission, Division 4, has dismissed, at the company's request, its application for a loan of \$6,000,000 from the Reconstruction Finance Corporation.

Modification of Interest Reduction Plan.—This company has filed with the commission a revised plan for modification of interest charges and extension of maturities. The carrier pointed out in its letter of transmission to the commission, that the alterations in the plan do not change its facts, but that they have chiefly to do with the language, clarifying certain features.

BOSTON & MAINE.—R. F. C. Loan.—This company has applied to the Interstate Commerce Commission for approval and to the Reconstruction Finance Corporation for a loan of \$1,500,000, the proceeds to be used to repair damage to roadbed, tracks, bridges, signals and other equipment caused by the recent hurricane and floods which struck New England. The company estimates that the cost of repairing the storm damage will total \$2,200,000 of which \$2,000,000 will be allocated to flood damage and \$200,000 to hurricane destruction.

CHICAGO & NORTH WESTERN.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized the trustee to abandon the Hot Springs branch, extending from Buffalo Gap, S. Dak., to Hot Springs, 14.3 miles.

ERIE.—Reorganization Plan.—In the summary in last week's *Railway Age*, page 611, of the provisions of a reorganization plan filed with the I. C. C. by a group of holders of refunding and improvement mortgage bonds of this road, interest rates given for each issue in the third paragraph, dealing with the allocation of new securities to existing creditors for principal and interest, are actually accrued interest percentages, and not mere annual rates. Thus (2) Erie Prior Lien bonds, \$35,000,000, carry a 4 per cent interest rate, but by reason of accrued interest, are assigned 6 per cent in the plan.

GULF, MOBILE & NORTHERN.—Merger with Mobile & Ohio.—The board of directors of the G. M. & N., at a meeting held in New York on October 26, ap-

proved a plan for consolidation of the road with the Mobile & Ohio. Approval, with minor qualifications, has already been given to the plan by a committee representing holders of M. & O. refunding and improvement bonds. The initial tentative plan was described in the *Railway Age* of August 27, page 333.

ILLINOIS CENTRAL.—Abandonment by the Yazoo & Mississippi Valley.—The Yazoo & Mississippi Valley has asked the Interstate Commerce Commission for authority to abandon a line extending from Spanish Fort, Miss., to Kelso, 11.3 miles.

INDIAN VALLEY.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon its entire line extending from a connection with the Western Pacific at Crescent Mills, Calif., to Englemin, 13.2 miles.

MINNEAPOLIS & ST. LOUIS.—Abandonment.—The receivers have asked the Interstate Commerce Commission for authority to abandon the following lines: From Corwith, Iowa, to St. Benedict, 6.6 miles; from Lynnvile Junction, Iowa, to Lynnvile, 2.4 miles; and from Minerva Junction, Iowa, to Story City, 34.4 miles.

MINNEAPOLIS, ST. PAUL & SAULTE STE. MARIE.—Remuneration of Trustees' Counsel.—The Interstate Commerce Commission, Division 4, has ordered that Henry S. Mitchell be paid a maximum compensation of \$15,000 a year for his services as counsel to the trustees of this company.

MISSOURI PACIFIC.—Abandonment.—The trustee has applied to the Interstate Commerce Commission for authority to abandon the following lines: Two miles of the Creve Coeur branch in St. Louis County, Mo.; from Carthage Junction, Mo., to Asbury, 17.8 miles; and from LeRoy, Kans., to Madison, 29.5 miles.

NEW YORK CENTRAL.—Abandonment by the Toledo & Ohio Central.—The New York Central and the Toledo & Ohio Central have asked the Interstate Commerce Commission for authority to abandon the following lines: From Rockville, Ohio, to Calvin, 2.5 miles and 1.6 miles in Dover, Ohio.

NEW YORK CENTRAL.—Modification of R. F. C. Guaranty.—The Interstate Commerce Commission, Division 4, has modified its report and certificate of August 19, so as to permit this company to use the proceeds of the \$5,000,000 loan originally intended for the repair of 1,000 freight-train cars, for the repair of approximately 50 additional locomotives. The commission has also ordered that the number of units given in the statement of the purposes for which the proceeds of the loan may be used should be considered as approximate rather than exact.

NORTHERN PACIFIC.—Abandonment.—This company has asked the Interstate Commerce Commission for authority to abandon its Roslyn branch, extending from Engineer's Station 321 plus 90 to the end of the line at Lakedale, Wash., 1.1 miles.

SACRAMENTO NORTHERN.—Operation and Abandonment.—This company has asked

the Interstate Commerce Commission for authority to operate over 6.8 miles of double-track line over the San Francisco-Oakland Bay Bridge in the San Francisco Bay area. The company has also asked for authority to abandon 2.7 miles of line in the same territory.

SAVANNAH & ATLANTA.—Submission of Plan of Reorganization.—The Interstate Commerce Commission, Division 4, has ordered that the final plan of reorganization for this company be submitted to the bondholders of this company and the Brinson for their acceptance or rejection. The bondholders have until November 30 to file their ballot with the commission.

SIERRA.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon operation under trackage rights over a line of railroad owned by the city and county of San Francisco, Calif., known as the Hetch Hetchy, extending from a connection with the Sierra's line at Hetch Hetchy Junction in an easterly direction to the end of the line at or near Mather, 59 miles.

WABASH.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized the receivers to abandon the part of the Bement branch extending from Sullivan, Ill., southerly to the end of the branch at Stewardson, 24.1 miles.

WABASH.—Reorganization.—The Interstate Commerce Commission, Division 4, has authorized the Wabash Railway Company to withdraw, without prejudice, its application for authority to (1) acquire and operate all railroads, properties and assets of the Wabash Railway of Indiana; (2) for authority to acquire control of certain other common carriers through stock purchase; and (3) for authority to issue securities and to assume liability for the securities of others.

WESTERN PACIFIC.—R. F. C. Loan.—The trustees have applied to the Interstate Commerce Commission for approval and to the Reconstruction Finance Corporation for a loan of \$10,000,000, the proceeds to be used to pay off a like amount of trustees' certificates at their maturity date on December 1, 1938. The loan will be secured by an issue of four per cent certificates of indebtedness which the commission recently authorized the trustees to issue. The application states that the trustees were unable to sell the certificates at the price specified by the commission with the result that there is no other source than the R. F. C. from which to borrow the money.

WILLAMETTE VALLEY.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon the operation of its entire line extending from Oregon City, Ore., to Kaylor, 20.5 miles.

Dividends Declared

Northern R. R. of N. H.—\$1.50, quarterly, payable October 31 to holders of record October 13.

Richmond, Fredericksburg & Potomac.—7 Per Cent Guaranteed, \$2.50, semi-annually; 6 Per Cent Guaranteed, \$3.00, semi-annually, both payable November 1 to holders of record October 31.

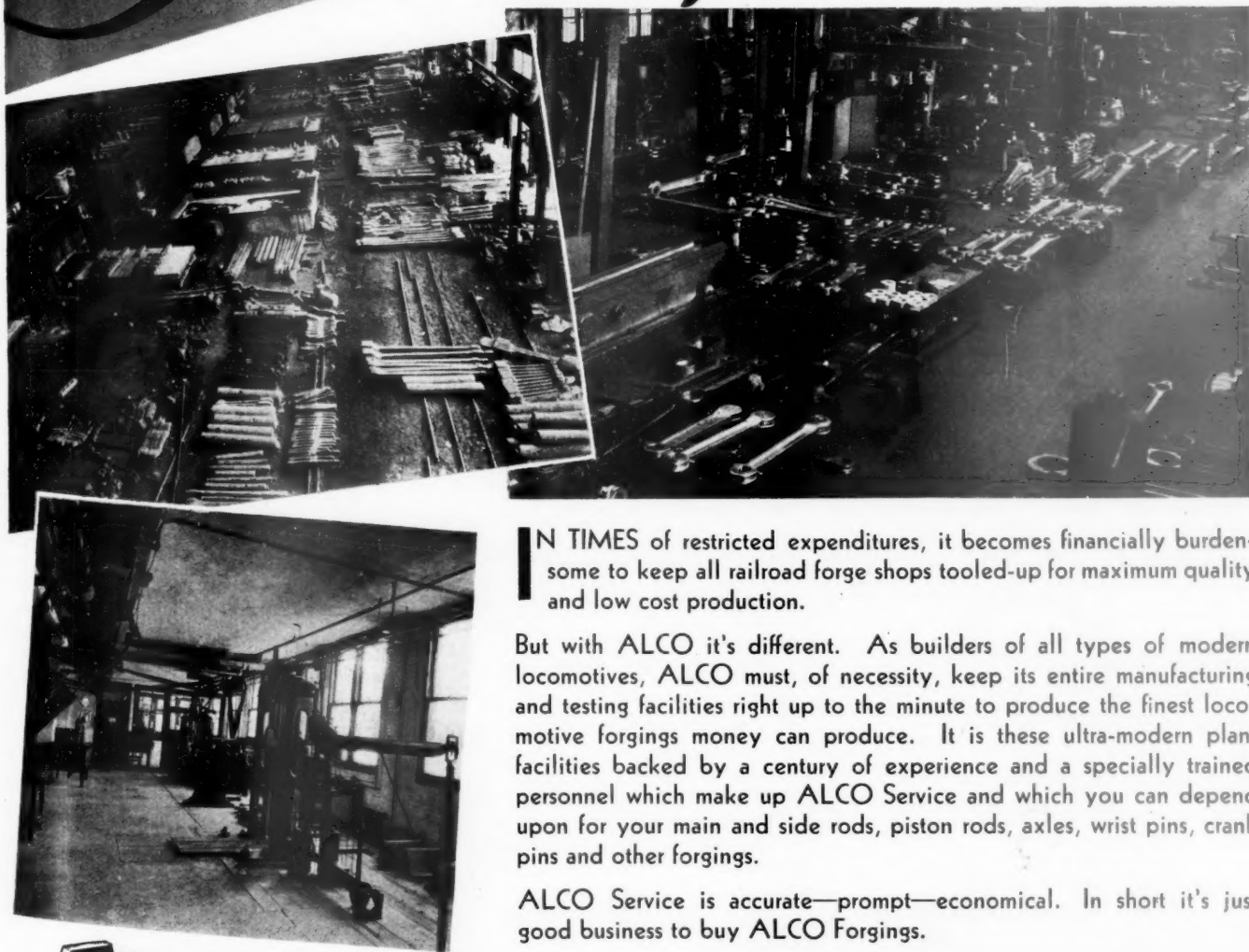
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ALCO SERVICE

on

Forgings

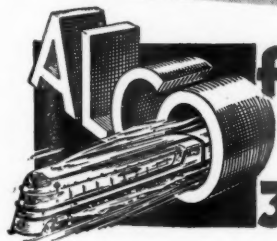
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Railway Officers

EXECUTIVE

L. C. Sprague, co-receiver of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., has been appointed sole receiver. **John Junell**, former co-receiver has resigned.

John G. Walsh, secretary and treasurer of the Erie, with headquarters at Cleveland, Ohio, has been appointed vice president in charge of finances of the Southern Pacific, effective December 1, with headquarters at New York.

Irvin Davis, vice-president of the Campbell's Creek Railroad, with headquarters at Cincinnati, Ohio, has been elected president succeeding **James T. Hatfield**, and **James T. Hatfield, Jr.**, general superintendent, with the same headquarters, has been elected vice-president, replacing Mr. Davis.

FINANCIAL, LEGAL AND ACCOUNTING

Edith J. Alden, assistant secretary of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been elected secretary and assistant treasurer, and **Andrew T. Williams**, assistant secretary and assistant treasurer, has been elected treasurer, succeeding **Charles I. Sturgis**, vice-president and secretary and treasurer, who retired on October 26.

J. H. McChord, assistant to the general counsel on the Louisville & Nashville, has been promoted to general attorney, with headquarters at Louisville, Ky. Mr. McChord was born at Springfield, Ky., on December 15, 1888, and graduated from Centre College and the Harvard Law School. He started his legal career in the law offices of Humphrey, Middleton and Humphrey at Louisville, and entered



J. H. McChord

private practice in 1915. On October 1, 1920, he was appointed counsel in the law department of the L. & N., and on May 15, 1922, he was promoted to assistant to

the general counsel, the position he held at the time of his recent promotion.

Charles S. Burg, general attorney on the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., has been pro-



Charles S. Burg

moted to general counsel, succeeding **Joseph M. Bryson**, whose death on August 8 was reported in the *Railway Age* of August 13. Mr. Burg was born at St. Louis, Mo., on October 1, 1879, and entered railway service in December, 1894, as an office boy in the accounting department of the Katy. After serving in various minor positions, he became a stenographer in the law department of the general offices in St. Louis, and two years later he was advanced to chief clerk in that office. During this period, Mr. Burg, in addition to his duties in the legal department of the Katy, studied and graduated from the Benton School of Law. In 1912 he was promoted to assistant to the general counsel, and in 1915 he was advanced to commerce counsel, with headquarters at St. Louis. In 1919 he was promoted to general attorney, with the same headquarters, the position he held at the time of his recent promotion.

OPERATING

J. P. Kelly has been appointed trainmaster on the Texas & Pacific, with headquarters at Alexandria, La., succeeding **C. F. Adams**, who has been assigned to other duties.

W. R. McPherson, division superintendent on the Denver & Rio Grande Western, with headquarters at Grand Junction, Colo., has been appointed acting superintendent of transportation, with headquarters at Denver, Colo., succeeding **R. K. Bradford**, who has been furloughed.

A. E. Pistole, superintendent on the Texas & Pacific, with headquarters at Big Spring, Tex., and superintendent of the Texas-New Mexico, has been appointed also superintendent of the Cisco & Northeastern and the Weatherford, Mineral Wells & Northwestern, with the same headquarters, succeeding **B. C. Crow**, who has resigned.

Claude Crawford, assistant trainmaster on the Philadelphia division of the Penn-

sylvania, has been appointed trainmaster of the Monongahela division. **Earl Pearce**, yardmaster of the Cleveland division, has been appointed assistant trainmaster of the Philadelphia division, with headquarters at Lancaster, Pa. **H. L. Lodge, Jr.**, yardmaster of the Maryland division, has been appointed assistant trainmaster of the Cleveland division.

O. H. Osborn, transportation inspector on the Atchison, Topeka & Santa Fe, at Dodge City, Kan., has been promoted to trainmaster, with headquarters at San Angelo, Tex., succeeding **C. F. Abrams**, who has been transferred to Clovis, N. M., replacing **F. A. Baker**. Mr. Baker has been transferred to Las Vegas, N. M., relieving **J. F. Carder**, whose promotion to superintendent at Argentine, Kan., was announced in the *Railway Age* of October 22.

TRAFFIC

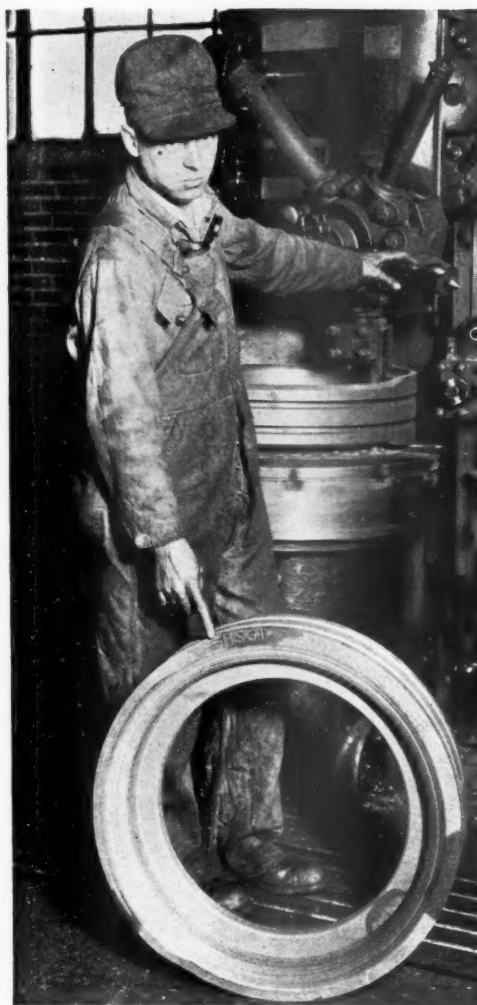
Henry E. Pierpont, chief traffic officer of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, and at one time vice-president in charge of traffic of that road, will retire November 1, and **Eugene B. Finegan**, assistant



Henry E. Pierpont

chief traffic officer, with the same headquarters, will succeed Mr. Pierpont. Mr. Pierpont was born at Two Rivers, Wis., and entered railway service in 1883 as a telegraph operator on the Milwaukee at Council Bluffs, Iowa. He subsequently held various minor positions in the station and auditing departments, and in 1890, he was promoted to agent at Kansas City, Mo. In 1894, he was promoted to division freight and passenger agent at La Crosse, Wis., and in 1896, he was advanced to assistant general freight agent, with headquarters at Chicago. In 1907, he was promoted to general freight agent, and in 1913, he was advanced to freight traffic manager. Mr. Pierpont was appointed traffic manager in 1920, and in 1926, he was elected vice-president in charge of traffic; on January 1, 1936, his title was changed to chief traffic officer, the position he held at the time of his retirement.

Andrew L. Kreamelmeier, assistant to general traffic manager on the St. Louis-San Francisco, with headquarters at St. Louis, Mo., has been promoted to general freight agent, a newly created position



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with the same headquarters, and **William J. Masterson**, chief clerk to the general traffic manager at St. Louis, has been advanced to assistant to the general traffic manager, replacing Mr. Kreamelmeyer. **Alfred L. Bardgett**, **Leo J. Hennessy**, and **Herbert V. Cook**, in the rate department at St. Louis, have been promoted to assistant general freight agents, with headquarters at St. Louis.

Edward F. Wonder, general agent on the Lehigh Valley, with headquarters at Chicago, has been promoted to general western freight agent, with the same headquarters, a newly-created position.

K. N. Middlekauff, city passenger agent on the Union Pacific, at Denver, Colo., has been promoted, effective November 1, to general agent, passenger department, at Denver, succeeding **Arthur C. Smith**.

ENGINEERING AND SIGNALING

C. C. Robnett, instrumentman in the engineering department of the Chicago, Burlington & Quincy at St. Joseph, Mo., has been promoted to division engineer, with headquarters at Hannibal, Mo., succeeding **E. E. Young**, who has been transferred to Burlington, Iowa, replacing **W. G. Boon**, who will retire on November 1. **William Thomas**, division engineer, with headquarters at Omaha, Neb., retired October 1. No successor has been appointed.

Thomas Bell Ballantyne, whose appointment as district engineer of the Canadian Pacific at Toronto, Ont., was reported in the *Railway Age* of October 8, was born on September 1, 1885. He entered railroad service on April 22, 1908, with the Canadian Pacific as transitman at Mont-



Thomas B. Ballantyne

real, Que., and on March 1, 1912, was appointed resident engineer there. Mr. Ballantyne was transferred in the latter capacity to Smith's Falls, Ont., on January 1, 1915, and to Schreiber, Ont., on November 28, 1916. After military service, he returned to Schreiber as resident engineer on March 17, 1919, and on January 1, 1923, he became division engineer at Farnham, Que. Mr. Ballantyne was appointed assistant district engineer at Toronto on September 23, 1935, the posi-

tion he held until his recent appointment as district engineer.

MECHANICAL

C. B. Hitch, assistant superintendent motive power of the Chesapeake & Ohio, with headquarters at Huntington, W. Va., has been appointed superintendent motive power at Richmond, Va., succeeding **T. F. Barton**, deceased. **N. M. Trapnell**, assistant to superintendent motive power, has been appointed assistant superintendent motive power, with headquarters as before at Richmond, succeeding Mr. Hitch. The position of assistant to superintendent motive power has been abolished. A photograph of Mr. Trapnell and a biographical sketch of his railway career were published in the *Railway Age* of August 13.

OBITUARY

Charles L. Mason, superintendent on the Atchison, Topeka & Santa Fe, with headquarters at Marceline, Mo., died of a heart attack at that point on October 20. Mr. Mason was born at Portland, Ind., on December 24, 1868, and entered the service of the Santa Fe in June, 1887, as a station cashier. He subsequently served as a clerk, chief clerk and agent at Streator, Ill. In April, 1902, he was promoted to superintendent and agent of the St. Joseph Terminal, St. Joseph, Mo., and in July, 1914, he was appointed trainmaster, with headquarters at Emporia, Kan. Mr. Mason was appointed superintendent and agent at Kansas City, Mo., the following year, and on March 1, 1920, he was promoted to superintendent, with headquarters at Marceline, Mo., the position he held at the time of his death.

Fred P. Pfahler, who resigned in 1930 from the position of assistant to chief of motive power and equipment of the Seaboard Air Line at Savannah to accept a position as service agent with the Interstate Commerce Commission at Washington, D. C., died on October 14. Mr. Pfahler was born at Sunbury, Pa., on June 21, 1875, and entered the service of the Pennsylvania as yard clerk on the Sunbury division in November, 1889, going with the Baltimore & Ohio in March, 1899, as fireman on the Connellsville division and machinist at Pittsburgh, Pa. In October, 1904, Mr. Pfahler became roundhouse foreman at Buffalo, N. Y., for the Erie and in January, 1905, he returned to the B. & O. as machine shop foreman at Willard, Ohio. From May to September, 1905, he was general foreman on the Seaboard Air Line at Hamlet, N. C.; then serving until April, 1906, as draftsman on the Baltimore & Ohio at Baltimore, Md. From April, 1906, to October, 1911, Mr. Pfahler was mechanical engineer of the Wheeling & Lake Erie at Norwalk, Ohio, returning to the B. & O. in March, 1916, and serving successively as general mechanical inspector at Baltimore, master mechanic of the Pittsburgh and Cumberland divisions, supervisor locomotive maintenance at Baltimore and district master mechanic at Pittsburgh, Pa. He was assistant to chief

of motive power and equipment of the Seaboard Air Line from October 1, 1925, to April, 1930, when he resigned to go with the I. C. C. at Washington, where he remained until his death.

Howard P. Clements, who retired in April, 1931, as passenger traffic manager of the Pullman Company, died on October 19 at the Passavant hospital, Chicago. Mr. Clements was born at Chicago on April 27, 1861, and entered the service of the Pullman Company in 1875 as a messenger



Howard P. Clements

in the operating department. In 1886, after serving in various minor capacities, he was promoted to assistant district superintendent, with headquarters at Dearborn station, Chicago, and three years later he was advanced to district superintendent. In 1890, he was promoted to assistant division superintendent, and in 1901 he was appointed to assistant to the general superintendent. In 1903, Mr. Clements was appointed assistant general ticket agent, and in 1908 he was promoted to general ticket agent. Ten years later, his title was changed to general passenger agent, and in 1925 he was advanced to passenger traffic manager, the position he held at the time of his retirement.

IN ANTICIPATION OF THE EIGHTH Pan-American Conference, to be opened at Lima, Peru, on December 9, the Foreign Commerce department of the U. S. Chamber of Commerce has issued a book entitled "South America's Trade" which gives trade statistics for each of the ten Latin American republics. Partial information about the export of railway materials is revealed in a table listing, in order of importance, the 100 chief exports from the United States to these republics in 1936. In that year, \$1,328,000 worth of railway track material, constituting 0.7 per cent of total value of the list, and 34th in order of importance, was exported in South American trade. Railway car parts (except axles and wheels), having a total value of \$858,000, were also involved in the trade. During the year, the southern republics purchased 23 passenger motor rail-cars at a cost of \$291,000 and 189 freight cars at a cost of \$286,000.

Table of Freight Operating Statistics begins on next left-hand page

STANDARD

Wheels and Axles

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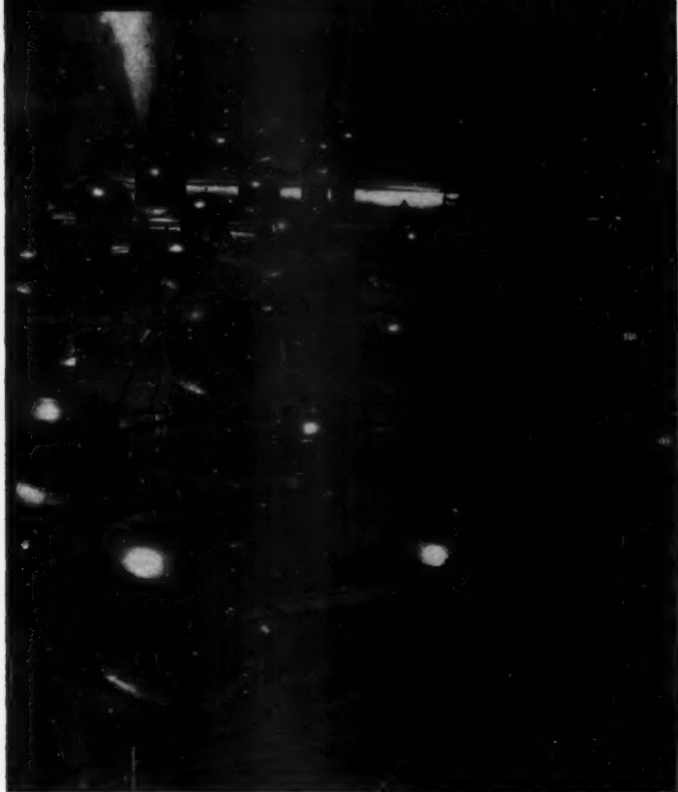
Freight Operating Statistics of Large Steam Railways—Selected Items for the Month of August

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Number of road locomotives on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross, excluding locomotives and tenders	Net, revenue and non-revenue	Serviceable		Un-serviceable	Per cent un-serviceable		
									Not stored	Stored				
New England Region:														
Boston & Albany.....	1938	374	109,396	113,942	7,826	2,490	66.3	137,362	45,802	51	6	33	36.7	
	1937	374	134,254	139,039	8,863	2,972	68.3	163,699	58,233	58	14	19	20.9	
Boston & Maine.....	1938	1,937	233,022	254,760	19,517	7,764	71.0	416,051	152,493	117	2	116	49.4	
	1937	1,941	267,520	294,635	20,285	9,227	73.9	481,290	181,926	123	12	119	46.9	
N. Y., New Hav. & Hartf.....	1938	2,002	291,375	364,250	17,046	9,670	65.5	521,939	189,152	158	21	96	35.2	
	1937	2,016	333,236	404,715	21,773	11,798	71.5	605,875	232,875	181	8	67	27.4	
Great Lakes Region:														
Delaware & Hudson.....	1938	830	180,349	233,897	23,215	5,817	64.5	351,157	159,294	93	121	46	17.7	
	1937	830	218,206	279,798	29,493	7,437	69.2	437,534	210,476	108	115	37	14.2	
Del., Lack. & Western.....	1938	983	292,288	324,946	41,176	9,909	68.7	564,030	212,598	115	19	85	38.8	
	1937	984	350,626	385,547	49,631	11,635	70.6	649,049	254,001	127	18	76	34.4	
Erie (incl. Chi. & Erie).....	1938	2,276	596,694	629,586	30,978	25,705	64.5	1,579,420	556,946	206	41	223	47.4	
	1937	2,277	695,785	729,344	35,669	30,023	66.3	1,821,692	694,556	230	37	199	42.7	
Grand Trunk Western.....	1938	1,027	207,464	208,103	1,318	4,984	62.1	305,294	104,789	62	1	47	42.7	
	1937	1,027	251,638	252,312	2,142	6,767	64.4	404,232	145,336	87	2	45	33.6	
Lehigh Valley.....	1938	1,288	257,395	279,736	38,777	9,860	64.9	613,371	247,316	108	3	123	52.6	
	1937	1,302	323,384	351,796	46,303	12,418	69.0	758,341	329,691	123	8	144	52.4	
New York Central.....	1938	10,651	2,213,022	2,318,388	134,876	71,399	60.4	4,739,738	1,934,849	710	245	522	35.3	
	1937	10,692	2,659,374	2,783,341	162,512	89,183	62.0	5,822,872	2,411,390	912	203	351	23.9	
N. Y., Chicago & St. Louis.....	1938	1,672	440,949	445,133	5,422	15,379	62.0	937,041	332,507	138	22	38	19.2	
	1937	1,672	483,605	490,548	6,709	17,531	64.6	1,061,653	416,775	164	16	15	7.7	
Pere Marquette.....	1938	2,081	272,180	281,080	5,234	6,993	60.9	458,693	179,649	94	19	51	31.1	
	1937	2,081	340,988	346,187	5,603	8,679	62.4	556,392	220,337	113	8	26	17.7	
Pittsburgh & Lake Erie.....	1938	233	56,095	57,458	.....	2,279	59.0	193,518	105,983	29	5	39	53.4
	1937	234	88,741	91,271	.....	3,343	61.4	283,848	160,285	40	15	22	28.6
Wabash.....	1938	2,421	505,528	516,377	10,939	15,508	64.8	919,345	320,821	127	14	138	49.5	
	1937	2,421	586,516	598,591	11,790	17,848	67.1	1,029,301	380,236	142	29	118	40.8	
Central Eastern Region:														
Baltimore & Ohio.....	1938	6,314	1,253,969	1,521,007	155,513	38,657	61.3	2,664,388	1,166,933	543	162	535	43.1	
	1937	6,330	1,580,272	1,919,659	199,308	48,983	63.1	3,367,337	1,547,586	679	96	496	39.0	
Central of New Jersey.....	1938	679	135,898	155,189	28,461	4,093	59.9	281,556	126,552	73	4	78	50.3	
	1937	681	148,129	165,848	30,563	4,635	63.9	303,629	141,755	77	10	67	43.5	
Chicago & Eastern Illinois.....	1938	927	154,578	154,620	2,613	3,580	67.8	213,620	87,422	52	2	53	49.5	
	1937	931	175,761	176,387	2,841	4,567	67.2	275,727	115,990	57	7	45	44.1	
Elgin, Joliet & Eastern.....	1938	435	77,280	77,964	725	1,772	59.0	136,303	63,582	45	7	31	37.3	
	1937	435	119,625	121,784	2,707	3,031	58.7	242,154	121,745	57	7	25	30.5	
Long Island.....	1938	390	26,817	27,480	14,879	241	51.0	18,432	6,733	25	11	12	25.0	
	1937	393	26,991	27,627	14,874	239	51.6	17,832	6,406	27	11	11	22.4	
Pennsylvania System.....	1938	10,025	2,258,704	2,732,520	287,771	84,589	61.5	5,695,519	2,471,845	1,054	389	948	39.6	
	1937	10,015	3,158,335	3,612,791	390,267	112,842	63.4	7,687,215	3,548,182	1,416	317	561	24.5	
Reading.....	1938	1,444	330,684	365,921	41,247	9,381	59.9	680,448	314,444	165	34	150	43.0	
	1937	1,445	407,400	448,049	52,176	11,537	64.0	807,865	388,538	193	28	114	34.0	
Pocahontas Region:														
Chesapeake & Ohio.....	1938	3,050	755,318	788,228	33,612	33,261	55.3	2,836,678	1,540,848	325	64	140	26.5	
	1937	3,050	862,778	908,065	38,611	39,212	56.9	3,298,745	1,803,573	388	54	107	19.5	
Norfolk & Western.....	1938	2,178	583,903	602,161	27,584	24,605	58.3	1,977,453	1,026,816	254	77	41	11.0	
	1937	2,179	694,453	728,431	39,743	30,579	58.1	2,482,973	1,310,028	306	29	24	6.7	
Southern Region:														
Atlantic Coast Line.....	1938	5,079	461,208	463,725	6,740	10,094	62.8	579,419	197,016	223	54	96	25.7	
	1937	5,077	506,425	508,526	7,486	11,117	65.3	609,806	231,614	219	65	94	24.9	
Central of Georgia.....	1938	1,886	229,693	231,007	2,811	4,729	69.5	262,418	98,574	96	...	29	23.2	
	1937	1,886	257,800	259,285	3,410	5,517	72.0	300,362	120,471	108	...	16	12.9	
Illinois Central (incl. Y. & M. V.).....	1938	6,540	1,232,901	1,237,877	22,219	32,484	60.5	2,127,289	852,533	605	34	230	26.5	
	1937	6,546	1,434,760	1,445,787	26,822	37,564	62.7	2,396,002	972,222	649	55	160	18.5	
Louisville & Nashville.....	1938	4,928	956,068	1,033,330	25,152	22,872	58.5	1,631,573	768,702	306	41	208	37.5	
	1937	4,931	1,080,515	1,168,441	27,551	25,583	59.1	1,809,776	859,334	370	70	125	22.1	
Seaboard Air Line.....	1938	4,305	423,473	438,169	3,142	10,572	66.1	609,185	236,759	191	39	74	24.3	
	1937	4,295	450,943	459,420	4,929	11,159	69.8	616,766	246,033	198	30	84	26.9	
Southern.....	1938	6,561	1,165,705	1,183,170	17,447	26,704	66.7	1,531,952	597,230	494	6	204	29.0	
	1937	6,596	1,278,265	1,298,511	19,425	29,084	69.0	1,610,390	652,444	499	3	264	34.5	
Northwestern Region:														
Chicago & North Western.....	1938	8,388	866,643	899,305	20,422	24,792	62.7	1,574,299	557,820	297	160	229	33.4	
	1937	8,397	1,046,159	1,090,009	26,709	28,361	62.5	1,792,812	675,194	438	66	188	27.2	
Chicago Great Western.....	1938	1,450	245,796	247,090	7,617	6,866	60.5	437,832	154,177	63	5	26	27.7	
	1937	1,450	279,589	280,288	5,671	8,148	62.5	502,220	186,000	67	...	24	26.4	
Chi., Milw., St. P. & Pac.....	1938	10,943	1,316,755	1,355,290	47,611	34,867	57.9	2,380,519	952,038	497	61	135	19.5	
	1937	11,105	1,408,421	1,492,985	65,366	38,879	63.0	2,476,217	1,015,134	542	28	99	14.8	
Chi., St. P., Minneap. & Om.....	1938	1,636	234,570	245,811	12,126	5,285	64.9	337,356	142,967	109	21	14	9.7	
	1937	1,636	268,887	287,011	14,571	5,964	66.6	379,706	168,672	120	7	20	13.6	
Great Northern.....	1938	7,976	915,356	910,342	30,578	30,232	57.1	2,273,157	1,000,354	364	29	156	28.4	
	1937	7,997	1,000,738	1,002,267	33,455	35,708	56.3	2,668,360	1,237,611	375	29	148	26.8	
Minneap., St. P. & S. St. M.....	1938	4,273	403,675	409,763	3,323	9,045	61.3	574,319	239,293	129	...	25	16.2	
	1937	4,278	432,412	442,001	4,989	10,212	62.1	644,821	275,858	130	...	26	16.7	
Northern Pacific.....	1938	6,423	714,208	754,787	40,118	22,882	61.0	1,507,015	608,350	315	22	107	24.1	
	1937	6,429	807,348	856,208	46,635	25,197	62.6	1,605,991	658,940	385	19	62	13.3	
Central Western Region:														
Alton.....	1938	912	203,459	217,026	1,146	4,291	59.6	279,366	97,186	60	9	26	27.4	
	1937	912	217,883	235,094	1,722	5,037	64.9	311,569	124,886	72	...	25	25.8	
Atch., Top. & S. Fe (incl. G.C. & S.F. & P. & S.F.).....	1938	13,500	1,774,741	1,898,918	83,698	48,947	61.4	3,189,205	1,037,659	568	59	308	32.9	
	1937	13,541	1,960,087	2,126,052	89,651	54,999	61.0	3,565,434	1,207,942	651	25</			

1938, Compared with August, 1937, for Roads with Annual Operating Revenues Above \$25,000,000

Region, road, and year	Number of freight cars on line			Per cent un-service-able	Gross ton-miles per train-hour, including locomotives and tenders		Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
	Home	Foreign	Total		Gross ton-miles per train-hour, including locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders							
New England Region:													
Boston & Albany.....1938	860	3,291	4,151	3.3	20,784	1,261	420	18.4	342	28.1	3,950	157	46.6
.....1937	2,289	4,068	6,357	24.7	20,719	1,229	437	19.6	303	22.7	5,023	153	56.0
Boston & Maine.....1938	8,020	6,697	14,717	13.5	24,658	1,793	657	19.6	324	23.2	2,540	95	40.7
.....1937	7,201	7,299	14,500	13.6	25,005	1,809	684	19.7	403	27.6	3,023	98	43.4
N. Y., New Hav. & Hartf..1938	9,616	8,462	18,078	16.9	26,169	1,819	659	19.6	327	25.6	3,048	94	50.4
.....1937	8,451	10,834	19,285	13.0	26,180	1,850	711	19.7	388	27.5	3,726	94	59.0
Great Lakes Region:													
Delaware & Hudson.....1938	9,291	2,433	11,724	5.9	29,305	1,957	888	27.4	429	24.3	6,191	102	33.5
.....1937	8,106	3,345	11,451	4.7	29,072	2,013	968	28.3	566	28.9	8,180	99	41.4
Del., Lack. & Western....1938	13,611	4,624	18,235	17.7	35,431	1,956	737	21.5	380	25.8	6,977	121	57.0
.....1937	13,029	5,914	18,943	14.9	31,254	1,877	734	21.8	430	27.9	8,327	127	69.3
Erie (incl. Chi. & Erie)....1938	18,273	12,343	30,616	7.9	45,036	2,666	940	21.7	590	42.2	7,894	86	50.5
.....1937	16,122	15,101	31,223	6.2	44,377	2,639	1,006	23.1	711	46.4	9,840	88	58.6
Grand Trunk Western.....1938	6,112	4,547	10,659	17.9	30,885	1,476	507	21.0	332	25.4	3,291	94	67.7
.....1937	5,129	6,470	11,599	15.8	31,490	1,619	582	21.5	402	25.1	4,565	88	67.4
Lehigh Valley.....1938	11,539	7,520	19,059	10.7	43,625	2,405	970	25.1	412	29.1	6,194	102	46.8
.....1937	10,523	9,237	19,760	8.3	41,780	2,379	1,034	26.5	533	29.1	8,168	105	49.3
New York Central.....1938	101,918	54,419	156,337	23.9	35,989	2,162	883	27.1	398	24.3	5,860	94	60.4
.....1937	92,122	69,739	161,861	15.4	37,130	2,211	916	27.0	485	29.0	7,275	94	72.6
N. Y., Chicago & St. Louis.1938	7,628	6,525	14,153	5.7	40,127	2,131	756	21.6	739	55.2	6,415	80	79.6
.....1937	6,633	8,232	14,865	2.8	39,382	2,198	863	23.8	896	58.4	8,041	81	89.0
Pere Marquette.....1938	11,111	4,801	15,912	4.6	27,449	1,686	660	25.7	364	23.3	2,785	83	64.3
.....1937	8,499	6,935	15,434	4.3	26,854	1,636	648	25.4	476	30.1	3,415	85	86.2
Pittsburgh & Lake Erie....1938	9,428	8,131	17,559	37.0	48,079	3,452	1,891	46.5	193	7.0	14,673	77	27.9
.....1937	8,293	10,392	18,685	30.8	47,316	3,209	1,812	47.9	274	9.3	22,096	82	43.3
Wabash.....1938	16,449	7,539	23,988	9.3	36,993	1,832	639	20.7	431	32.1	4,275	102	64.5
.....1937	12,785	9,589	22,374	6.5	36,031	1,772	655	21.3	547	38.2	5,066	105	71.9
Central Eastern Region:													
Baltimore & Ohio.....1938	61,353	20,206	81,559	20.9	29,431	2,154	943	30.2	458	24.7	5,962	126	46.5
.....1937	58,255	30,686	88,941	11.3	28,242	2,162	994	31.6	568	28.5	7,887	127	57.6
Central of New Jersey....1938	10,611	8,942	19,553	34.3	26,289	2,207	992	30.9	206	11.1	6,012	131	50.5
.....1937	9,469	10,317	19,786	27.7	25,841	2,170	1,013	30.6	240	12.3	6,715	129	53.8
Chicago & Eastern Illinois.1938	3,426	2,480	5,906	13.4	25,120	1,385	567	24.4	475	28.7	3,042	117	50.0
.....1937	2,783	3,207	5,990	4.0	28,257	1,574	662	25.4	606	35.5	4,019	112	59.8
Elgin, Joliet & Eastern....1938	8,502	2,288	10,790	8.8	17,078	1,796	838	35.9	189	8.9	4,715	105	42.5
.....1937	9,002	6,075	15,077	5.0	18,200	2,078	1,045	40.2	258	10.9	9,028	105	69.5
Long Island.....1938	365	2,993	3,358	3.4	5,335	706	258	27.9	69	4.8	557	358	41.3
.....1937	369	3,010	3,379	2.9	5,328	675	242	26.8	66	4.8	526	327	40.6
Pennsylvania System.....1938	205,451	51,578	257,029	18.5	37,403	2,561	1,112	29.2	309	17.2	7,954	103	45.8
.....1937	181,994	69,638	251,632	16.0	35,728	2,480	1,145	31.4	454	22.8	11,429	108	62.8
Reading.....1938	27,376	9,075	36,451	19.2	26,775	2,063	953	33.5	284	14.1	7,024	123	40.8
.....1937	22,819	13,043	35,862	9.3	25,651	1,987	955	33.7	349	16.2	8,674	126	52.7
Poconos Region:													
Chesapeake & Ohio.....1938	45,591	10,036	55,627	4.6	55,781	3,783	2,055	46.3	883	34.5	16,297	67	55.3
.....1937	42,479	13,052	55,531	1.6	55,423	3,869	2,115	46.0	947	36.2	19,075	68	60.8
Norfolk & Western.....1938	37,471	4,792	42,263	2.2	50,576	3,421	1,776	41.7	771	31.7	15,208	90	60.5
.....1937	33,668	5,562	39,230	1.7	53,968	3,623	1,912	42.8	1,106	44.4	19,394	89	74.1
Southern Region:													
Atlantic Coast Line.....1938	17,558	5,853	23,411	22.9	20,815	1,260	429	19.5	281	22.9	1,251	105	44.0
.....1937	15,334	7,873	23,207	22.0	20,579	1,207	458	20.8	334	24.6	1,472	106	47.5
Central of Georgia.....1938	4,859	2,377	7,236	2.2	22,045	1,145	430	20.8	437	30.2	1,686	110	66.3
.....1937	3,542	4,651	8,193	2.4	21,555	1,168	468	21.8	491	31.2	2,061	118	74.5
Illinois Central (incl. Y. & M. V.).....1938	35,284	14,533	49,817	16.6	28,011	1,735	695	26.2	549	34.5	4,205	112	51.1
.....1937	29,599	19,761	49,360	13.4	27,141	1,678	681	25.9	636	39.2	4,791	118	59.6
Louisville & Nashville....1938	38,885	8,311	47,196	20.6	26,601	1,709	805	33.6	524	26.6	5,032	118	65.6
.....1937	34,363	8,853	43,216	12.7	25,737	1,678	797	33.6	634	31.9	5,622	115	73.7
Seaboard Air Line.....1938	10,936	4,035	14,971	3.9	23,547	1,452	564	22.4	516	34.9	1,774	115	52.1
.....1937	9,546	5,610	15,156	2.3	22,465	1,384	552	22.0	521	33.9	1,848	118	53.8
Southern.....1938	20,247	16,737	36,984	9.9	22,504	1,321	515	22.4	524	35.1	2,936	131	58.1
.....1937	20,480	18,713	39,193	12.2	21,792	1,268	514	22.4	542	35.0	3,191	137	58.4
Northwestern Region:													
Chicago & North Western..1938	39,905	19,807	59,712	9.4	28,833	1,887	669	22.5	299	21.2	2,145	102	46.9
.....1937	37,485	20,540	58,025	8.2	26,521	1,760	663	23.8	364	24.4	2,594	105	57.5
Chicago Great Western....1938	2,590	3,432	6,022	2.6	32,085	1,787	629	22.5	821	60.4	3,430	116	94.9
.....1937	2,074	4,848	6,922	2.6	32,420	1,799	666	22.8	899	63.0	4,138	115	106.5
Chi., Milw., St. P. & Pac..1938	47,857	17,452	65,309	2.9	28,847	1,819	727	27.3	475	30.0	2,806	108	72.2
.....1937	43,100	21,098	64,198	2.7	28,135	1,768	725	26.1	508	30.9	2,949	110	82.1
Chi., St. P., Minneap. & Om.1938	3,357	6,103	9,460	8.0	19,075	1,474	624	27.1	488	27.8	2,819	99	62.7
.....1937	3,729	6,952	10,681	7.4	18,679	1,454	646	28.3	537	28.5	3,326	101	71.0
Great Northern.....1938	37,104	18,971	56,075	4.6	34,540	2,497	1,099	33.1	621	32.9	4,046	99	62.0
.....1937	36,987	19,640	56,627	5.0	38,298	2,687	1,246	34.7	758	38.9	4,992	91	67.5
Minneap., St. P. & S. St. M.1938	13,323	4,084	17,407	5.1	23,052	1,428	595	26.5	446	27.5	1,806	88	90.2
.....1937	12,469	5,845	18,313	3.9	23,176	1,504	644	27.0	501	29.9	2,080	88	96.3
Northern Pacific.....1938	31,015	7,187	38,202	9.3	32,046	2,124	857	26.6	532	32.7	3,055	126	62.8
.....1937	27,122	8,377	35,499	7.8	30,498	2,000	821	26.2	632	38.6	3,306	134	68.2
Central Western Region:													
Alton.....1938	1,781	6,276	8,057	9.2	33,793	1,382	481	22.6	368	27.2	3,438	114	78.4
.....1937	2,376	6,248	8,624	17.4									

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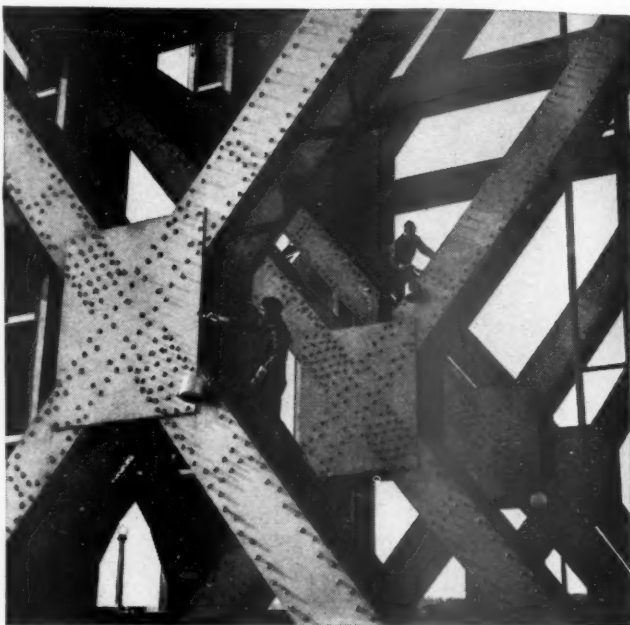
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